adeno-assoc adeno-assoc adeno-assoc adeno-assoc

adeno-assoc adeno-assoc adeno-assoc

adeno-assoc

adeno-assoc

```
TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AKKRVLBPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Berns K.I., Bohenzky R.A., Cassinotti P., Colvin D., Donahue B.A., Dull T., Horer M., Kleinschmidt J.A., Ruffing M., Snyder R.O., Tratschin J.-D., Meitz M.; Submitted (JAM-1998) For the EMBL/GenBank/DDBJ databases.

EMBL; AF0443103; AAC93780.1; -
EMBL; AF0443103; Fistructural molecule activity; IEA.

GO; GO:0005198; Fistructural molecule activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95088582; PubMed=7996133; Ruffing M., Heid H., Kleinschmidt J.A.; Mutations in the carboxy terminus of adeno-associated virus 2 cap; Proteins affect viral infectivity: lack of an RGD integrin-binding mort from the carbox and the carbox and the carbox and the carbox are also as the carbox are also as a flect viral infectivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
NCBL_TaxID=10804;
  06jc02
06jc17
06jc17
06jc14
06jc24
06jc28
06jc38
06jc38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          735 AA; 81944 MW; 980BEEF46908390B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 3994; DB 2;
Pred. No. 1.4e-242;
                                                                                                                                                                                                                                                                                                                                                                                                                   735 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                 ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                           0607042
0607044
060703
060703
060703
060703
060703
060703
                    Q6JC17
Q6JC04
Q6JBZ1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Major coat protein VP1.
Adeno-associated virus 2 (AAV2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00740; Parvo_coat; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
  Gen. Virol. 75:0-0(0)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 735; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POURNCE FROM N. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUN-1998
01-JUN-1998
3709.5
3709.5
3704.5
3704.5
3704.3
3703
3703
3700
3690.5
3688
3683
3683
3683
3683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 adeno-assoc
adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       adeno-assoc
adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              adeno-assoc
adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   adeno-assoc
adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         adeno-assoc
adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     adeno-assoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  adeno-assoc
                                                                                                                            May 19, 2005, 13:15:50 ; Search time 172 Seconds (without alignments) 2188.245 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                      735
                                                                                                                                                                                                                                                1 MAADGYLPDWLEDTLSEGIR......TNGVYSEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q6jc33
Q6jbz7
Q6jc34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06;006
06;020
06;021
06;021
06;021
06;022
06;023
06;028
06;029
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;020
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06;030
06
                                                                                                                                                                                                                                                                                                                                                                                           1612378
                  5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                     of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                  1612378 seqs, 512079187 residues
                  version 5
- 2005 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                           protein search, using sw model
                                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             066052
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
0650
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
065050
0650
                  GenCore (c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                length: 0
length: 2000000000
                                                                                                                                                                                                           US-10-038-972A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match Length
                                    Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seg
seg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3994
3973
3963
3968
3967
3961
3961
3955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           39953
39464
39461
3947
3933
3933
3928
3928
3928
3928
3916
3916
3916
3916
3916
3916
                                                                                                                                                                                                                                Perfect score:
                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                           ı
                                                                                                                                                                                                                                                                                                                                                                                       Total number
                                                                                           OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                  88
                                                                                                                                                                                                                                                  Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum |
Maximum |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                  е
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Result
```

capsid

120 180 180 240 240

9 9

Gaps

ô

300

420

420

480 480 540 540 9 009 099 999

240

셤

ò 셤 유 à 음 ò 셤 à

à

쉱

ઠે 유 ઠે

```
KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQBRLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SVPDPQPLGQPPAAPSGLGTNTMASGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                  241 TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYPDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                          NNNWGFRPKRINFKLFWIQVKEVTQNGFTTTIANNLTSTVQVFTDSBYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQPSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541 IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQGGNTQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPGMVMQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AKKRV1.EPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                            NNNWGFRPKRINFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                          CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                   SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                              TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      I FGKQGSEKTNVDI EKVMI TDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Clades of Adeno-associated viruses are widely disseminated in human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;

Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R., Zhou X., Wilson J.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dependovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   J. Virol. 78:6381-6388(2004).

EMBL, AF530613; AAS9298.1; -

EMBL, AF530613; FASS928.1; -

GO, GO:0005198; F:gructural molecule activity; IEA.

GO, GO:0005198; F:gructural molecule activity; IEA.

InterPro; IPR001403; Parvo_coat.

EMBL; PF00740; Parvo_coat.

ERQUENCE 735 AA; B1786 MW; 802F42CBFCEFFICI CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae;
NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-JUL-2004 (TrEMBLrel. 27,
05-JUL-2004 (TrEMBLrel. 27,
05-JUL-2004 (TrEMBLrel. 27,
Capsid protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q6JC06;
05-JUL-2004
05-JUL-2004
                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=cap;
                                                     121
                                                                                                                                                     181
                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q6JC06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT OFJCO6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                8
                                                                                             g
                                                                                                                                                Š
                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           th Lin Care From N.A.

RA Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R., Zhou X., R. Milson J.M.;

RA Milson J.M.;

RT "Clades of Adeno-associated viruses are widely disseminated in human tissues.";

L. J. Virol. 78:538-6388(2004).

R. D. Virol. 78:538-6388(2004).

DR GO; GO:0019028; F:structural molecule activity; IEA.

DR GO; GO:0005198; F:structural molecule activity; IEA.

DR GO; GO:0005198; P:structural molecule activity; IEA.

DR GO; GO:0005198; F:structural molecule activity; IEA.

SEQUENCE 735 AA; 81748 MW; 1555801E683FE750 CRC64;
                                                                                                                              360
                                                                                                                                                                            420
                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                      481 PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEBKFFPQSGVL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                               301 NNNWGFRPKKLNPKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                        HSSYAHSOSLDRIMINDLIDQYLYYLSRINIPSGITITQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        I FGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                          361 CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                             HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                        PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                               CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
NCBI TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.5%; Score 3973; DB 2; Length 735; 99.5%; Pred. No. 3e-241; ive 1; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          735 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEPREIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 99.5%;
les 731; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TREMBLrel. 27, Canel cont.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Capsid protein VP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=cap;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                 301
                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
060741
AC 060741
DT 05-7UL-2
DT 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Loca
Matches
                                                                                                                                                                                                                                                           ,
Ş
```

셤

ઠે

ઠે

human ; ×

8

8

음 상 음

δ

8 & 8

8

8 g ò ઠે 셤

```
KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                            KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541 IFGKQGSEKTINVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                        1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTSTRTWALDFTYNNHLYKQI SSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPPFPADVFWVPQYGYLTLANGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSYAHSQSLGRLMNPLIDQYLYYLSRTNTPSGTTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LPGMVWQDRDVYLQGPIWAKIPHTGHFFPSPLMGGFGLKHPPPQ1LIKNTPVPANFSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FSAAKFASFIIQYSIGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDINGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   I FGK GGSEKTINV DI EKVMIT DE EEIRTTIN PVATE OYGSVSTINL ORGIN OAATADVNT OGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
  Zhou
                                            disseminated in
                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                    Length 735;
  Calcedo R.,
                                                                                                                                                                                                                                                                                            Indels
                                                       tissues.";
J. Virol. 78:6381-6388(2004).

J. Virol. 78:6381-6388(2004).

GO; GO:0019028; C:Viral capsid; IEA.

GO; GO:00198; F:Structural molecule activity; IEA.

InterPro, IRRO1403; Parvo_coat.

Pfam; PF00404; Parvo_coat: 1.

SEQUENCE 735 AA; 81857 MW; 30E9995DA61CD485 CRC64;
                                                                                                                                                                                                                                                  Score 3969; DB 2;
Pred. No. 5.3e-241;
1; Mismatches 2;
Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Wilson J.M.; "Clades of Adeno-associated viruses are widely
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 99.6%;
Matches 732; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q6JC09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q6JC09
ID Q6
AC Q6
  8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      අ
                                                             ö
                                                                                                                                                                                    KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPPPPADVEMVPQYGYLTINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTPSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEKFFPQSGVL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FSAAKFASFIIQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                      AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                             TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                             9
                                                                                                                                                                                                            KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                  SVPDPQPLGQPPAAPSGLGTNTWATGSGAPMADNNEGADGVGNSSGNWHCDSTWHGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                   1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                         SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 FGKQGSEKTNVD1 EKVM1TDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dependovirus
                                                             ö
                      735;
                                                             Indels
                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Parvovirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
Last sequence update)
Last annotation update)
                 Score 3972; DB 2;
Pred. No. 3.4e-241;
1; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae;
VCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06JC20
06JC20;
06JC20;
05-JUL-2004 (TrEMBLrel. 27, Ca
05-JUL-2004 (TrEMBLrel. 27, La
05-JUL-2004 (TrEMBLrel. 27, La
Capsid protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEPRPIGTRYLTRNL 735
                   99.4%;
99.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEPRPIGTRYLTRNL 735
               Query Match
Best Local Similarity 99.5
Matches 731; Conservative
                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT

06JC20

11D 066

AC 066

DT 066

DT 066

DT 076

DT 07
                                                                                                   8 8
                                                                                                                                                                                                               8 S
                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                       음
등
등
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
```

240

240

180

300

300 360 360 420 480

480

420

540

540

900 900 099 720

720

9

120 180

120

ö

Gaps

```
61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLPPFPADVFMVPQYGYPTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSYAHSOSLDRIMMPLIDOYLYYLSTINTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
     661 FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NNNWGFRPKRINFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTSTRIWALPTYNNHLYKQISSQSGASNDNHYPGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCYRQQRVSKTSADNINNSEYSWTGATKYYLLINGRDSLVNPGPAVASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPAERHRDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121. AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTSTRTWALPTYNNHLYKOISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Clades of Adeno-associated viruses are widely disseminated in human tissues.";
                                                                                                                                                                                                                                                                                                                                                                                                                      Zhou X.
                                                                                                                                                                                                                                                                                                      Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   735;
                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;
Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R.,
Wilson J.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 99.3%; Score 3967; DB 2; Length 7
Best Local Similarity 99.3%; Pred. No. 7e-241;
Matches 730; Conservative 2; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7A6CC0E60C078F0D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J. Virol. 78:6381-6388(2004).

EMBL; AYSJ0608; AAS99293.1.

GO; GO:0019028; C:Virol Cappid, IEA.

GO; GO:0005198; F:structural molecule activity; IEA.

InterPro; IPR001403; Parvo_coat.
                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                           A
                                                                                                                                                                         735
                                                                                                                                                                                                              Created)
                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00740; Parvo coat; 1.
SEQUENCE 735 AA; 81797 MW;
                                           735
                                                                              735
                                                                                                                                                                                                              27,
27,
                                         721 SEPRPIGTRYLTRNL
                                                                      721 SEPRPIGIRYLIRNL
                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                 05-JUL-2004 (TrEMBLrel.
                                                                                                                                                                                                            (TrEMBLrel.
                                                                                                                                                                                                                                (TrEMBLrel.
                                                                                                                                                                                                                                                                   Capsid protein VP1.
                                                                                                                                                                                                              05-JUL-2004
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                         06JC11
                                                                                                                                     9
                                                                                                                                   RESULT (
Q6JC11
ID Q63
                                                                        g
                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 AKKRVLEPLGLVGEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTSTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 TISTRTWALPTYNNHLYKQISSQSGASNDSHYFGYSTPWGYFDFNKFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NINWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPPFPADVFMVPQYGYLTLANGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSYAHSQSLDRLMNPLIDQYLYYLSTTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481 PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDNEEKFFPPQSGVL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPELQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHRDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPARRHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLRYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541 IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541 IFGKQGSEKTINVDIBKVMITDEBEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPGWVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKWTPVPANPSTT
                                                                                                                                                                                                                                           "Clades of Adeno-associated viruses are widely disseminated in human tissues.";
J. Virol. 78:6381-6388(2004).
G. Virol. 78:6381-6388(2004).
GO; GO:0019028; C:viral capsid; IEA.
GO; GO:0005198; F:structural molecule activity; IEA.
InterPro; IPR001403; Parvo coat.
Effam; PR00740; Parvo coat.
SEQUENCE 735 AA; 81817 MW; 496DF18E95CABB13 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                  Parvoviridae, Parvovirinae, Dependovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 735;
                                                                                                                                                                                    Pubbed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;
Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R.,
Wilson J.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
 Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 99.3%; Pred. No. 6.1e-241;
Matches 730; Conservative 3; Mismatches 2;
-JUL-2004 (TrEMBLrel. 27, -JUL-2004 (TrEMBLrel. 27, -JUL-2004 (TrEMBLrel. 27,
                                                                                            Adeno-associated virus.
Viruses; ssDNA viruses;
NCBI_TaxID=272636;
                                                         Capsid protein VP1.
                                                                                                                                                                     SEQUENCE FROM N.A.
                 05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                              Name=cap;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
 g
```

ò 용 Š 셤 ઠ 셤 ઠે g ò 셤 ò g ઠે ద ò ď ð g ò 셤 à

ó

9 9 120

180

240 240 540 540

480

360 420

009

99 999 720 720

셤 ያ ያ ઠે 셤 8 ద

```
AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                      PCYRQORVSKTAADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAADGYLPDWLEDTLSEGIRQRWKLKPGPPPPEPAERHKDDSRGLVLPGYKYLGPFNGLD
                                    CLPPFPADVFWVPQYGYLTLANNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                             HSSYAHSOSLDRLMMPLIDOYLYYLSRTNTPSGTTTOSRLOFSOAGASDIRDOSRNWLPG
                                                                                                                                                                                                                                                  PCYROORVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                         LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                         HSSYAHSOSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDOSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                            IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQ1LIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Clades of Adeno-associated viruses are widely disseminated in human tissues.";
J. Virol. 78:6381-6388(2004).
GO: 00:0019028; C:viral capsid; IEA.
GO: GO:0005198; F:structural molecule activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zhou X.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Parvoviridae; Parvovirinae; Dependovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pubmed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;
Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R.,
Wilson J.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Interpro; IPR001403; Parvo coat.
Pfam; PP00740; Parvo coat; 1.
SEQUENCE 735 AA; 81929 MW; 4EC10D74C451A429 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 99.2%; Score 3961; DB 2; Best Local Similarity 99.5%; Pred. No. 1.7e-240; Matches 731; Conservative 1; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27,
27,
27,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=cap;
Adeno-associated virus.
Viruses; ssDNA viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
Capsid protein VPl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                            541
   361
                                                           361
                                                                                                                         421
                                                                                                                                                                                 421
                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q6JC21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
Q6JC21
                                          g
                                                                                                                                                                셤
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DDT ACC OCT OF THE STANDACT OF THE STANDACT OF THE STANDACT OCT OF THE STANDACT OF THE STANDAC
                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                      099
                                                                                        900
                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SVPDPQPLGQPPASPSGLGTNTMATGSGAPWADNNEGADGVGNSSGNWHCDSTWMGDRVV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEXQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MAADGYLPDWLEDTLSEGIRQWWXLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD 60
                                                                                 541 IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLORGNRQAATADVNTQGV
                                                                                                                                             LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                         FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                             FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004; PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004; Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R., Zhou X., Wilson J.M.; Clades of Adeno-associated viruses are widely disseminated in human tissues."; J. Virol. 78:6381-6388(2004).
EMBL; AX530618; AX595303.1; -.. GO; GO:0019028; C:viral capsid; IEA.
GO; GO:0019028; C:viral capsid; IEA.
GO; GO:0019028; C:viral capsid; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus
NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR001403; Parvo coat.
Pfam; PF00740; Parvo coat; 1.
SEQUENCE 735 AA; 81834 MW; ACF51A69B66B582D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99.2%; Score 3961; DB 2;
98.9%; Pred. No. 1.7e-240;
ive 4; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              735 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                       SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 727; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Adeno-associated virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Capsid protein VP1.
Name=cap;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                         661
                                                                                                                                                601
                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 1006 CO 100 CO 1
```

9 9

ξ,

g

g

8

유

8

ò

g

δ

g

180

240

300 300 360 420

```
61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFGERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                             AKKRVLEPLGLVESPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 NNNWGFRPKRLNFKLFKIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                      MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                       KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                 181 SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                 TISTRIWALPTYNNHLYKQISSQSGASNDNHYPGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                          NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLPPFPADVFMVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEPRPIGTRYLTRNL 735
                                                                             61
                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                       à
                                                                                                              셤
                                                                                                                                                                                                              g
                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                            240
                                                                                                                                               300
                                                                                                                                                                                                   360
                                                                                                                                                                                                              CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                          HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FSAAKFASFITQYSTGQVSVELEWELQKENSKRWNPELQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EQUENCE FROM N.A.

'EX PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;

'BA Go G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R., Zhou X.,

Milson J.M.;

"Clades of Adeno-associated viruses are widely disseminated in human
"IT "Clades of Adeno-associated viruses are widely disseminated in human
"IT "Salues";

"J. Virol. 78:6381-6388(2004).

"EMBL; AY530594; AAS99279.1; -.

"R GO; GO:0019028; C:viral capsid; IEA.

"R GO; GO:0019028; C:viral capsid; IEA.

"InterPro; IPR001403; Parvo coat.
"PRO01400; Parvo coat.
"PRO014000; Parvo
TISTRIWALPIYNNHLYKQISSQSGASNDNHYPGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                   NNNWGFR PKRLINFKLFNI QVKEVTQNDGTTTI ANNLTSTVQVFTDSEYQLFYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLGRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LPGMVMQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MAADGYLPDWLEDTLSEGIRQWWKLKPCPPPPRRARBHKDDSRGLVLPGYKKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
VCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
99.0%; Score 3955; DB 2; Length 735;
Best Local Similarity 98.9%; Pred. No. 4e-240;
Matches 727; Conservative 2; Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q67C25;
05-JUL-2004 (TERMBLEEL: 27, C:
05-JUL-2004 (TERMBLEEL: 27, L:
05-JUL-2004 (TERMBLEEL: 27, L:
Capsid protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEPRPIGIRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                 241
                                                                             241
                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q6JC25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
06/025
DE OGUC
DT 05-4
DT 05-
                                                                          ઠ
                                                                                                                            유
                                                                                                                                                                                                                            ద
                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

```
420
                                                                                                                                  480
                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                    PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEBKFFPQSGVL
                                                                                                                                                                                                                                                                                                                   IFGKQGSEKTINVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004; Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R., Zhou X., Wilson J.M.; "Clades of Adeno-associated viruses are widely disseminated in human tisques.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Adeno-associated virus,
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     735 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GO, GO:0019028; C:viral capsid; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGJBZS

GGJBZS

GGJBZSS

OS-JUL-2004 (TERMBLREL 27, CZ

OS-JUL-2004 (TERMBLREL 27, LG

OS-JUL-2004 (TERMBLREL 27, LG

CAPSIG Protein VPI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
Q6JBZ5
AC Q6JBZ
AC Q6JBZ
DT 05-JU
DT 05-JU
DT 05-JU
DT 05-JU
DT 05-JU
DX NAMME
OX NAMME
OX NIUS
RR SEQUE
RR SEQUE
RR GAO G
RA WILSO
RR WI
```

```
/ Match
Local Similarity
les 726; Conserv
   WCBI_TaxID=272636;
                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                       Matches
                                                                                                                                                      Query
   g
                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                         ò
                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                      ∂
                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                원
                                                                  ö
                                                                                                                         120
                                                                                                                                 SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                           NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                           CLPPFPADVFMVPQYGYLTLANGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                     PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                            AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                      TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                              HSSYAHSQSLDRLANPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                       9
                                                                                                                                                                       AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPAEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                             KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                 TTSTRTWALPTYNNHLYKQI SSQSGASNDNHYPGYSTPWGYFDFNRFHCHFSPRDWQRL1
                                                                                                                                                                                                                                                                                                                                                                                                                                         SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                    HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                         PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                              I FGK GGSEKTINV DI EKVMIT DEEEIRTTIN PVATE OYGSVSTINL ORGUR QAATAD VINTOGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPGMVWODRDVYLOGFIWAKIPHTDGHFHPSPLMGGFGLKHPPPOILLIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                               CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06.JE29;
06.JUL-2004 (TrEMBLrel. 27, Created)
05.JUL-2004 (TrEMBLrel. 27, Last sequence update)
05.JUL-2004 (TrEMBLrel. 27, Last annotation update)
05.JUL-2004 (TrEMBLrel. 27, Last annotation update)
Capsid protein VPl.
Ammercapi
Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
                                                                  ö
                                                 Length 735;
                                                                 6; Indels
                              CRC64;
GO; GO:0005198; F:structural molecule activity; IEA. InterPro; IPR001403; Parvo coat. Pfam; PF00740; Parvo Coat; 1. SEQUENCE 735 AA; 81778 MW; 15972FCAC5764274 CRC6
                                              Score 3954; DB 2;
Pred. No. 4.6e-240;
1; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                              atch 99.0%; cal Similarity 99.0%; 728; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                       61
                                                                                                                                                             121
                                                                                                                                                                             121
                                                                                                                                                                                                 181
                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                Query Match
                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q6JBZ9
                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 11
06JBZ9
AC Q6JBZ
AC Q6JBZ
DT 05-JU
DT 05-JU
DT 05-JU
DT CAP81
GN Name:
OS Name:
OC Virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ξ,
                                                                                   8 6
                                                                                                                                   8 4 8 4 8 8
                                                                                                                                                                                                                                                                   8 6 8 6
 SARAS
                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                  8 8
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
```

```
420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYDHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGNQPAKKLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NNNWGFRPKRLNFKLFNI QVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPPFPADVPMVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSYAHSOSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQSGNTQASTADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNDGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541 IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
SEQUENCE FROM N.A.
PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;
Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R., Zhou X.,
Wilson J.M.;
"Clades of Adeno-associated viruses are widely disseminated in human
                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                              735;
                                                                                                                                                                                                                                                                                                                                                                                            4; Indels
                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                         InterPro; IPR001403; Parvo coat.
Pfam; PF00740; Parvo coat; 1.
SEQUENCE 735 AA; $1877 MW; 4CBBB93F79877DBC CRC64;
                                                                                                                    tissues.";
J. Virol. 78:6381-6388(2004).
EMBL; AYS30620; AAS99305.1; -
GO; GO:0019028; C:viral capsid; IEA.
GO; GO:0005198; F:structural molecule activity; IEA.
                                                                                                                                                                                                                                                                                                                                           99.0%; Score 3953; DB 2;
llarity 98.8%; Pred. No. 5.3e-240;
Conservative 5; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEPRPIGTRYLTRNL
```

œ

Page

```
NNNWGFRPKRINFKIFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HINTER HI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MAADGYLPDWLKDTLSEGIRQWWKLKPGPPPRPRAERHKDDSGGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLPPFPADVFWVPQYGYLTLINGSQAVGRSSFYCLBYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGSWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLPPFPADVFMVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Clades of Adeno-associated viruses are widely disseminated in human tissues.";
J. Virol. 78:6381-6388 (2004).
BMBL, ANSJ0612, AAS99297.1; -.
GO; GO:0019028; C:viral capsid; IEA.
GO; GO:005198; F:structural molecule activity; IEA.
InterPro; IPR001403; Parvo coat.
Pfam; PF00740; Parvo coat.
SEQUENCE 735 AA; 81661 MW; 96BB878041CB47B6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zhou X.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus
NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;
Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo Wilson J.M.
                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 3945; DB 2;
Pred. No. 1.7e-239;
5; Mismatches 4;
                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                            735
                                                                                                                                              98.8%;
98.8%;
                                                                                                                                                                                                                                                                                                                                                                   05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 98.89
These 726; Conservative
                                                                                                            SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Name=cap;
Adeno-associated virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Capsid protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                       RESULT 13
Q6JC07
                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRPAERHKDDSRGLVLPGYRYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NNNWGFR PKRLNFKLFNI QVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPGMVWQDRDVXLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKUTPVDANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSYAHSOSLDRIANPLIDOYLYYLSRTNTPSGTTTOSRLOFSQAGASDIRDOSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQPSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANDSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541 IFGKQGSEKTNVDIEKVMITDEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                      Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

Chen C.L., Jensen R.L., Schnepp B.C., Connell M.J., Bartlett Sferra T.J., Shell R., Johnson P.R., Clark K.R.;

"Characterization of Adeno-Associated Viruses In Children.";

Submitted (UUL-2004) to the EMBL/GenBank/DDBJ databases.

EMBL; AY69573; AAU05564.1; -..

InterPro; IPR001403; Parvo_coat.

InterPro; IPR001975; Viral_cap_coat.

Pfam; PF00740; Parvo_coat; 1.

SEQUENCE 735 AA; B1894 MW; ECD3D9AF395F984D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                           Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 3946; DB 2;
Pred. No. 1.5e-239;
5; Mismatches 6;
                                                                          735 AA
                                                                          PRT;
                                                                                                                           (TrEMBLrel. 28, (TrEMBLrel. 28, 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match 98.8%;
Local Similarity 98.5%;
Hes 724; Conservative
                                                                   PRELIMINARY;
                                                                                                                                                                                                               Capsid protein VP1
                                                                                                                        25-OCT-2004 (
25-OCT-2004 (
25-OCT-2004 (
                                                                                                                                                                                                                                       Name=cap;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         199
RESULT 12
0670R4
1D 0670R
AC 0670R
DT 25-0C
DT 25-0C
DT 25-0C
DT 25-0C
DT 25-0C
DX MAGNET
OC VITUR
OC
```

g ઠે

8 8

8 6

8 &

ઠે 셤 ò g

유 ò

ઠે 요 Š g à 요 ò

A &,

ö

9 9

σ

g

충 g ઠે 셤

ઠે qq ⋧

```
420
                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                        480
                                                                                                                                                  480
                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                            009
                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AKKRVLEPLGLVGEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPAKKLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTMSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                       481 PCYRQQRVSKTAADNNNSDYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKYFPQSGVL
                                                                                                                                                                                                                                                                                                                                                             601 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                        HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                        PCYROORVSKTSADNINSEYSWTGATKYHLINGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                            541 IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                            LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
PubMed=15163731; DOI=10.1128/JVI.78.12.6381-6388.2004;
Gao G., Vandenberghe L.H., Alvira M.R., Lu Y., Calcedo R., Zhou X.,
Wilson J.M.;
"Clades of Adeno-associated viruses are widely disseminated in human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lisques ";

1 Virol. 78:6381-6388(2004).

J. Virol. 78:53614; AAS99299.1; -.

GO; GO:0019089; F:structural molecule activity; IEA.

InterPro; IPR001403; Parvo_coat.

Pfam; PP00710; Parvo_Coat.

Pfam; PP0710; Parvo_Coat.

Pfam; PP0710; PARVO_TOAT.

Pfam; PP0711373 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98.6%; Score 3940; DB 2; 98.9%; Pred. No. 3.5e-239; live 3; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, Capsid protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 98.99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Name=cap;
                                                                                        421
                                                                                                                                           421
                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QGJC05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
                                                                                                                            8 S
                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACC OCT DE STATE STATE SOOR DE STATE STATE SOOR DE STATE STATE SOOR DE SOOR DE
                              음
상
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                   9
                                                                                                                                                                                                  FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                            FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
PCYRQQRVSKTAADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 CLPPFFADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD 60
                                                                                     I FGKQGSEKTNVDI EKVMI TDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                    LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SVPDPQPLGQPPAAPSGLGTNTMASGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Adeno-associated virus.
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chen C.L., Jensen R.L., Schnepp B.C., Connell M.J., Bartlett Sferra T.J., Shell R., Johnson P.R., Clark K.R.; "Characterization of Adeno-Associated Viruses In Children."; Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases. EMBL, AX695378; AAU05372.1; -..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00740; Parvo coat, 1. -
SEQUENCE 735 AA; 81784 MW; 8188BE497DA919B4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 3941; DB 2;
Pred. No. 3e-239;
7; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       735 A.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001403; Parvo coat.
InterPro; IPR008975; Viral cap coat.
                                                                                                                                                                                                                                                                                                                                                                                                           735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98.7%;
98.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                      SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28,
28,
                                                                                                                                                                                                                                                                                                                                                                                                           SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-OCT-2004 (TrEMBLrel.
25-OCT-2004 (TrEMBLrel.
25-OCT-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Capsid protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=272636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                             541
                                                                                                                                                                    601
                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 14
067006
1D 067006
DT 25-0C
DT 25-0C
DB Capsi
GN Name=
OX NAME=
OX
```

셤

ò g 8 ·8

g

ŝ

요

ሯ

q

Š

```
181 SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNRHCDSTWMGDRVI 240
                 TISTRIWAL PIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                            481 PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAWASHKDDEKFFPQSGVL 540
                                                      NNNWGFRPKRINFKIFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                   301 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                            CLPPFPADVFMVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFBDVPF 420
                                                                                                       HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                              661 FSAAKFASFIIQYSTGOVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFIVDTNGVY 720
                                                                                                                                                                                                              600
                                                                                                                                                                                                                                              LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT 660
                                                                                                                                                                                                                                                           541 IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQCV
                                                                                                                                                                                                                                                                                                                        SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                    SEPRPIGTRYLTRNL 735
                   241
                                                        301
                                                                                                                                 421
                                                                                            361
                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                         721
                                                                                        유
                  ò
                                   გ
                                               ઠે
                                                                   셤
                                                                                                                                                                                                                                                                             8 6 6 6
```

Search completed: May 19, 2005, 13:32:59 Job time : 175 secs Н

OM protein - protein search, using sw model

Run on:

May 19, 2005, 13:16:50 ; Search time 44 Seconds (without alignments) 1607.257 Million cell updates/sec

US-10-038-972A-13 3994 1 MAADGYLPDWLEDTLSEGIR.....TNGVYSEPRPIGTRYLTRNL 735 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

Total number of hits satisfying chosen parameters: 283416 segs, 96216763 residues Searched:

283416

seq length: 0 seq length: 2000000000 Minimum DB 8 Maximum DB 8

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	nont protein ale	protein VP	protein		coat protein VP1 -	coat protein VP1 -	protein	coat protein VP1 -		coat protein VP1 -		orfl protein - Jun	coat protein VP1 -	probable TonB-depe	hypothetical prote	EH domain protein	toxin-like outer m	transcription acti	hypothetical prote	toxin-like outer m	tight junction-ass	hypothetical prote							
SUMMARIES	VCDV3A	\$52210	VCPVB5	VCPV19	A60006	VCPVNA	VCPV1F	VCPVFP	VCPVME	VCPVIM	VCPVCP	VCPVPP	VCPVCD	VCPVCN	VCPVV2	VCPV2M	B44276	S49594	A44054	VCPVAP	AB0124	T25635	T09173	B64635	T18235	T25634	H71879	A46431	G71609
DB	-	1 0	-	H	Н	Н	Н	Н	Н	-	٦	٦	Н	Н	Н	-	ч	7	~	Н	~	7	7	~	7	7	~	7	7
% Query Match Length	504	732	673	781	729	729	727	727	722	718	748	723	737	722	722	716	587	584	810	702	069	-	743		1145	1175	2399	1745	2500
\$ Query Match	63.8	53.1	19.6	15.1	12.6	12.6	11.6	11.5	11.3	11.1	11.1	10.9	10.7	10.3	6.6	9.7	5.8	5.3	4.9	4.3	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.0	3.0
Score	2548	2122	781.5	602	504.5	501.5	461.5	457.5	452.5	442	442	434.5	425.5	411	397	388.5	232.5	213	194	170	133	132.5	129	128	124.5	122.5	122	121.5	121.5
Result No.	-	1 7	m	4	2	9	7	89	60	10	11	12	13	. 14	15	16	17	18	. 19	20	21		23	24	25	56	27	28	29

hypothetical prote ovo protein - frui	protoplast regener hypothetical prote probable nuclear p	i-phosphatidylinos hypothetical prote	transcription fact fibrinogen alpha c	mucin 1 precursor, syndecan-1 - Chine	hypothetical prote related to glucan	fibronectin_recept probable finger pr	probable translati
A86655 S16356	S62555 S76110 S62562	T18273 C64474	A47528 D44234	A35175 I48125	T19361 T49710	A27079 S51245	T11583
0.0	~ ~ ~	0 0	0 0	н 7	7 7	0 0	0
803 1213	932 1742 1159	1858	833 866	1344 309	925 931	1049	1403
3.0	m m m	2.0	9.6	0. 0. 0. 0.	2, 2, 6, 6,	9.0	2.9
119.5	119 118	118	117	117	115.5	114.5	114
30	3 3 3 4 3 3	35	37	39 40	4142	4 4 4 4	45

ALIGNMENTS

RESULT 1 VCPV3A coat protein - adeno-associated virus type 2 C,Species: adeno-associated virus type 2 C,Species: adeno-associated virus type 2 C,Date: 05-Apr-1983 #sequence_revision 05-Apr-1983 #text_change 09-Jul-2004 C;Accession: A03698
R;Srivastava, A.; Lusby, E.W.; Berns, K.I. J. Virol. 45, 555-564, 1983 A;Title: Nucleotide sequence and organization of the adeno-associated virus 2 genome. A;Reference number: A03694; MUID:83164299; PMID:6300419
A;Status: translation not shown A;Molecule type: DNA A;Mesidues: 1-504 SRI> A;Cross-references: UNIPROT:P03135; EMBL:J01901; NID:g209616; PIDN:AAA42376.1; PID:g2096 C;Superfamily: adeno-associated virus coat protein C;Keywords: coat protein

Gaps .; ; Query Match 63.8%; Score 2548; DB 1; Length 504; Best Local Similarity 99.2%; Pred. No. 3.9e-159; Matches 470; Conservative 1; Mismatches 1; Indels ;

Matches	es 470; Conservative 1; Mismatches 1; Indels 2; Gaps 1;	
ò	203 MATGSGAPWADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISS 262	
qq	1 MATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISS 60	
ò	263 QSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVKE 322	
qq	61 QSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLDFNIQVKE 120	
δ	323 VIQNDGTTITANNLISTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLILIN 382	
Op	121 VIQNDGTTTIANNLISTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTIANN 180	
à	383 GSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSQSLDRLMNPLIDQYL 442	
QQ	181 GSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSQSLDRLMNPLIDQYL 240	
ò	443 YYLSRINTPSGTTTQSRLQPSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSW 502	
QQ	241 YYLSKTUTPSGTTTQSKLQPSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSW 300	
δ	503 TGATKYHLNGRDSLVNPGPAMASHKDDEEKPPQSGVLIFGKQGSEKTNVDIEKVMITDE 562	
qq	301 TGATKYHLNGRDSLVNPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVNIEKVMITDE 358	
à	563 EEIRTTNPVALEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYLQGPIWAKIP 622	
Dp	359 EEIGTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYLQGPIWAKIP 418	

HTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKPASFITQYSTG 676

623

ò

```
Coat protein VPI - bovine parvovirus
N; Contains: coat protein VP2
N; Contains: coat protein VP2
C; Species: bovine parvovirus
C; Species: bovine parvovirus
C; Species: bovine parvovirus
C; Species: bovine parvovirus
C; Bate: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C; Accession: A26104
R; Chan, K.C.
A; Fitle: Complete mucleotide sequence and genome organization of bovine parvovirus.
A; Reference number: A26104
A; MID:87061184; PMID:3783814
A; Residues: 1-673 < CHE>
A; Residues: 1-673 < CHE>
A; Residues: 1-673 < CHE>
A; Residues: UNIPROT:P07297; EMBL:M14363; NID:9333454; PIDN:AAB59847.1; PID:980886.
C; Superfamily: parvovirus coat protein
C; Keywords: coat protein
F; 138-673/Product: coat protein
                      697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 58 YLYFNTHDQNLIDELKDDTSFGGKLARGVFQIKKALAPAL----PGTSKGGDRALKRK 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         112 LYFARSHKGAKKANREPAPSTSHQONMEVSNDIPNDEAGNQ----PIELATRSV-VGSGS 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           270 NHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGT 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIIANN-LISTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTL-----NN 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    383 GSQAVGRS----SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSQ-SLDRLMNP 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     345 TTNTVEEHLLKGVPLYMLENSDHEVLRNGRIYRIYIQLWRLRMDRKQHHIQHASDDVQST 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   437 LIDOYLYYLSRINTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNN 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               405 GQXQXXLLIQRTXQP-----NXQREQNAAL-----RTSNWMSGP-----GIARGTHNAT 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----VSGVRAVRVGYSTDPIYGGQQ 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           57
            638 NPPPQVFIKNTPVPADPPLEYVNQKWNSYITQYSTGQCTVEMVWELRKENSKRWNPEIQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 PPTNKA----NSKKGLTLPGYNYLGPFNSLFAGAPVNKADAAARKHDFGYSDLIKEGKNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90 YLKYNHADAEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              210 PMADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     226 RQY-AITTPWSYFNFNQYSSHFSPNDWQHLVNDYERFRPKAMIVRVYNLQIKQIMTDGAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30 PPPKPAERHKDDSRGLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150 PVEPDSSSGTGKAGQQPARKRINFGQTGDADSVPDPQPLGQPPAAPSGLGTNTMATGSGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       595 VNTQGVLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIK--NTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 497 NSEYSWIGAIKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL-----IFGKQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PE-----SDLLRLRYSASAAEGQONPILENAARHTFTREARTKLITGSNGADGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 673;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
19.6%; Score 781.5; DB 1; Length
Best Local Similarity 29.2%; Pred. No. 2.6e-43;
Matches 213; Conservative 104; Mismatches 299; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            547 SEKTINVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRG--NRQAAT-
                                                                                 TSNFGNRTSTMFAPNETGGYVEDRLIGTRYLTQNL
                                                    TSNYNKSVNVDFTVDTNGVYSEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      449 LOTQSAGALVTMVTNGAD------
                                                    701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             330
            g
                                                                                     엄
                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                            N.A. Error and a manages of protein controls of Species mascovy duck parvovirus

G.Species mascovy duck parvovirus

G.Species mascovy duck parvovirus

G.Species mascovy duck parvovirus

G.Species mascovy duck parvovirus

G.Accession: 55210

G.Accession: 55210

A.Raference number: 52209

A.Reference number: 52209

A.Reference number: 52209

A.Reference number: 52200

A.Reference number: 52200

A.Residues: 1-73 < A.D.

A.Residues: 1-73 < A.D.

A.Residues: 1-73 < A.D.

A.Residues: 1-72 < A.D.

A.Residues: 1-72 < A.D.

A.Residues: 1-72 < A.D.

A.Residues: 1-72 < A.D.

A.Gross-references: UNIPROT: Q83289; EMBL: X75093; NID: g60901; PIDN: CAA52984.1; PID: g6090

G.Genetics:

G.Genetics:

G.Superfamily: parvovirus coat protein

C.Keywords: coat protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRA 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          118 VFQAKKRVLEPLGLVEEPVKTAPGKK---RPVEHSPV-----EPDSSSGTGKAGQQPA 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               126 VFQAKKRILEPLGLVEEPVNTAPAKKSSGKLTDHDPIVKKPKLSEENSPSPSNSGGEASA 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    186 AATEG------SEPVAAPN------MAEGGSGAMGDSAGGADGVGNASGN 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRF 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             348 YOLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLN---NGSQAVGRSSFYCLEYFPSQMLR 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9 DWLEDTLSEGIRQWWKLKPGPPPPKPAE------RHKDDSRGLVLPGYKYLGPFN 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGNNFTFSYTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQ 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGASDIRDQSRNWLPGPCYRQQRVSKTSADNNN-SEYS-WTGATKYHLNGRDSLVNPGPA 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       523 MASHKDDEEKFFPQSGVLIFGKQ--GSEKTNVDIEKVMITDEEBIRTTNPVATEQYGSVS 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THEQUITTAPTHAELBVLGALPGMVWQNRDIYLQGPIWAKIPKTDGKPHPSPNLGGFGLH 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HPPPQILIKWTPVPANPSTTFSAAKFASFITQYSTGQVSVBIEWELQKENSKRWNBEIQY 700
                                                                                              coat protein VP1 - muscovy duck parvovirus
N/Alternate names: VP1 protein
C/Species: muscovy duck parvovirus
C/Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 09-Ju1-2004
C/Accession: S52210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DWYETAAA----SWRHLKAGAPKPKSNQQSQSVSTDRKPQRKDNNRGFVLPGYKYVGPGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RKRLNFGQTGDADSVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TNLORGNROAATADVNTQGVLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
HTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYSTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
53.1%; Score 2122; DB 2; Length 732;
Best Local Similarity 54.2%; Pred. No. 5.2e-131;
Matches 409; Conservative 92; Mismatches 194; Indels 6
                                                                                                                                                                                                                                                                                                                                                                                                ;Superfamily: parvovirus coat protein;Keywords: coat protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  641
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              යි සි
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 6 8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
```

QY 653 VPANPSTTFSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDF 712	Db 637 MVGSVWARRALHYESQLWSKIPNLDDSFKTQFAALGGWGLHQDPPQIFLKILPQSG 692 Qy 660 TFSAAKFASFITQYSTGQVSUEBWEL-QKENSKRWNPE 697 Db 693 PIGGIKSMGITILVQXAVGIMIVTMTFKLGPRKATGRWNPQ 733
Db 646 TINNAGVYA 654 RESULT 4	RESULT 5 A6000 Coat brotein VP1 - borcine parvovirus (atrain 90HS)
VCPV19 coat protein VP1 - parvovirus B19 (strain Au) C,Species: parvovirus B19 A;Note: host Homo sapiens (man) C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004 C;Accession: A24299 K;Shade R.O.; Blundell, M.C.; Cotmore, S.F.; Tattersall, P.; Astell, C.R.	N;Contains: coat protein VP2 C;Species: porcine parvovirus C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 09-Jul-2004 C;Accession: A60006 R;Sakurai, M; Nishimori, T: Ushimi, C:; Nakajima, H. Virus Res. 13, 79-86, 1989 A;Title: Nucleotide sequence of capsid protein gene of porcine parvovirus.
numan parvovirus B19 isolated 3375; PIDN:AAA66867.1; PID:g33	333 333
Query Match 15.1%; Score 602; DB 1; Length 781; Best Local Similarity 26.4%; Pred. No. 1.8e-31; Matches 185; Conservative 92; Mismatches 300; Indels 124; Gaps 19;	Query Match 12.6%; Score 504.5; DB 1; Length 729; Best Local Similarity 26.4%; Pred. No. 3.9e-25; Matches 210; Conservative 106; Mismatches 313; Indels 165; Gaps 38;
Qy 38 HKDDSRGLVLPGYRYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHAD 97	OY 30 PPPKPAERHKDDSRGLVLPGYKYLGPPNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNP 89
Qy 98 AEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSFVEPDSSS 157	QY 90 YLKYNHADAEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHS 149 :: : :
OY 158 GTGKAGQQPARKRLNFGQTGDADSVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEG 217	OY 150 PVEPDSSSGTGKAGQQPARKRINFGQTGDADSVPDPQPLGQPPAAPSGLG 199
Qy 218 ADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASND 269 1	OY 200 INTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPT 251
Qy 270NHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVKEVT-Q 325 : :	OY 252 YNNHLYKQISGOSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNW 304 :
Oy 326 NDGTTTIANNLTSTVQVFTDSEYQLPZVLGSAHQGCLPPFPADVFWVPQYGYLTLANN-GS 384	Qy 305 GFRPKRLNFKLFNIQVKEVTQNDGTTTIANN-LTSTVQVFTDSEYQLPYVLGSAHQGC 361 :: ::
Qy 385 QAVGRSEFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSGSLDRLMN 435 	QY 362 LPPFPADVFWVPQYGYLTIANGSQAVGRSSFYCLE-YFPSQ 401 :
Qy 436 PLIDQYLYYLSRTHTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADN 495	Qy 402 MLRTGNNF-TFSYTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTNT 450
Qy 496 NNSEYSWTG-ATKYHLANGRDSLVNPGP-AMASHKDDEEKFFPQSGVLIFG 543 Db 534 TGAGKALTGLSTGTSQNTRISL-RPGPVSQPYHHWDTDKYVTGINAISHGQTTYGNAEDK 592	QY 451 PSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSBYSWTGATKYHL 510
Qy 544KQGSEKTNVDIEKVMITDEEEIRTTNP-VATEQYGSVSTNLQRGNRQAATADVNTQGV 600	OY 511 NGRDSLVNPGPAMASHKDDERKFPPQSGVLIFGKQGSEKTNVDIEKVMITDEBEIR 566
Qy 601 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPS-PLMGGFGLKHPPPQILIKNTPVPANPST 659	Qy 567 TTNPVATEQYG-SVSTNLQRGNRQAATADVNTQGVLPGMV 605

us-10-038-972a-13.rpr

Page

```
Coat protein VPI - feline panleukopenia virus

N;Contains: coat protein VP2

C;Species: feline panleukopenia virus, PPLV

C;Species: feline panleukopenia virus, PPLV

C;Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 09-Jul-2004

C;Accession: A03701

R;Carlson, J; Rushlow, K.; Maxwell, I.; Maxwell, F.; Winston, S.; Hahn, W.

J;Vrol. 55, 574-587, 1985

A;Title: Cloning and sequence of DNA encoding structural proteins of the autonomous parvone A;Reference number: A03697; MUID:85265017; PMID:2991581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Accession: A03701
A;Molecule type: DNA
A;Residues: 1-727 <CAR>
A;Cross-references: UNIPROT:P04864; EMBL:M10824; NID:g333474; PIDN:AAA47161.1; PID:g33347.
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                       510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           32;
                                                                                                                                                                                                                                                                                                                                       462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          663
                285 EINLVSFEQEIFNVVLKTITESATSPPTKIYNNDLTASLMVALDTNNTLPYTPAAPRSET 344
                                                                                            LPPFPADVFMVPQYGYL-----TLNNGSQAVGRS-----SFYCLE-YFPSQ 401
                                                                                                                                                                        345 İGFYPWLPTKPTQYRYYLSCIRNLNPPTYTGQSQQITDSIQTGLHSDIMFYTIENAVPIH 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              909 MAMDGATAGMAM 606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             659 DSPOOPRIITYSNFWWKGTLTFTAKMRSSNMWNPIOOHTTT---AENIGNYIPTNIGGIR 715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | | : | : | | | | | SKPPHIFINLAK-----RNERA 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     205 TGSG-APMADNNEGADGVGNSSGNWH-----CDSTWMGDRVITTSTRTWALPTYNNHL 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     149 SPVRPDSSSGTGKAGQQPARKRINFGQTGDADSVP----DPQPLGQPPAAPSGLGTNTMA 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                      MLRIGNNF-TPSYTFEDVPFHSSYAHSQSLDR-----LMNPLI--DQYLYYLSRINT
                                                                                                                                                                                                                                                                                                                                                                                                               451 PSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NGRDSLVNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMIT---DEBEIRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          546 FNPQSKCGRAPKQQFNQQAPLNLENTNNGTLLPSDPIGGKSNMHFMNTLNTYGPLTALN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          607 QDRDVYLQGPIWAKIPHTD--GHFHPSPLMGGFGLK-HPPPQILIKNTPVPANPSTTFSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -AKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTN--GV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90 YLKYNHADAEFQERLKEDTSFGGNLGRAVFQAKKRVLEPL-GLVEEPVKTAPGKKRPVEH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---NTPYMNFEYS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----PNGAIRFTMDYQHGHLTTSSQELERYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 PPAKRAR-----RGLVPPGYKYLGPGNSLDQGEPTNPSDAAAKEHDEAYAAYLRSGKNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30 PPPKPAERHKDDSRGLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 173; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 727;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Superfamily: parvovirus coat protein
C;Keywords: coat protein
F;144-727/Product: coat protein VP2 #status predicted <VP2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 11.6%; Score 461.5; DB 1; Best Local Similarity 24.6%; Pred. No. 2.5e-22; Matches 191; Conservative 102; Mismatches 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      568 TNP----VATEQYG-SVSTNLQRGNRQAATAD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               463 RKGYHQTINNSYTEATA--İRPAQVGY---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     498 NGGPFLTPIVPTADTQYNDDE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720 ----YSE--PRPI 726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             716 MFPEYSQLIPRKL 728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Introns: 11/1
                                                                                                                                                                                                                                                        402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     115
                                                                                    ò
                                                                                                                                              g
                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                рğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: DNA
A;Residues: 1-729 < VAS.
A;Cross-recences: UNIPROT: P18546; GB:M32787; NID:g332983; PIDN:AAA46917.1; PID:g332985
A;Cross-recences: UNIPROT: P18546; GB:M32787; NID:g332983; PIDN:AAA46917.1; PID:g332985
R;Bergeron, J.; Menezes, J.; Tijssen, P.
Virology 197, 86-98, 1993
A;Title: Genomic organization and mapping of transcription and translation products of the A;Reference number: A48472; MUID:94025614; PMID:8212598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     #84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCEVULT 6
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVUR
VCEVER
VCEVER
VCEVUR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Asn) (covalent)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36;
                                                                                                                                                                                A-AKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTN--GV 719
| | | | : | : | | | : | : | | : | | : | | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : 
                                                                                                                     606 WQDRDVYLQGPIWAKIPHTD--GHFHPSPLMGGFGLK-HPPPQILLIKNTPVPANPSTTFS 662
                                                                                                                                                                                                                                                                                                                                            149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELSATGNESGGGGGGGGGGGGGVGVSTGTFNNQTEFQYLGEGLVRITAHASRLIHLNM 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PEHETYKRIHVLNSESGVAGGMVQDDAHTQMVTPWSLIDANAWGVWFNPADWQLISNNMT 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INTMATGS --- GAPMADNNEGADGVGNSSG -- NWHCDSTWMGD --- RVITTSTRTWALPT 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       252 YNNHLYKOI---SSOSGAS----NDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNW 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GFRPKRINFKLFNIQVKEVTQN--DGTTTIANN-LTSTVQVFTDSEYQLPYVLGSAHQGC 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | : | | | | | | PRKHPGSKPPGKRPAPRHIFINLAKKKAKGTSNTNSNSMSENVEQHNPI-----NAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30 PPPKPAERHKDDSRGLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PPAKRA-----RGLTLPGYKYLGPGNSLDQGEPTNPSDAAKEHDEAYDKYIKSGKNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YLKYNHADAEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PVEPDSSSGTGK-----AGQQPARKRLNFGQTGDADSVPDPQPLGQPPAAPSGLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: DNA
A;Residues: 11-729 <BER>
A;Experimental source: NADL-2, ATCC VR-742
A;Note: Bequence extracted from NCBI backbone (NCBIN:138789, NCBIP:138794)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Superfamily: parvovirus coat protein
C;Keywords: coat protein; glycoprotein
F;151-729/Product: coat protein VP2 #status predicted <VP2>
F;32,172,198,282,330,433,471,573,604,651/Binding site: carbohydrate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels 163;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 729;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -
-
-
-
-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
12.6%; Score 501.5; DB 1;
Best Local Similarity 26.4%; Pred. No. 6.1e-25;
Matches 209; Conservative 103; Mismatches 318;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----YSE--PRPI 726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            715 KMFPEYSQLIPRKL 728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Accession: B33743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Introns: 10/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C, Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                       `∂;
                                                                                                                                                                                             용
                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                     8
                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
```

à

à

ð

à

```
C;Accession: B38350
R;Kariatsumari, T.; Horiuchi, M.; Hama, E.; Yaguchi, K.; Ishigurio, N.; Goto, H.; J. Gen. Virol. 72, 867-875, 1991
A;Title: Construction and nucleotide sequence analysis of an infectious DNA clone A;Reference number: A38350; MUID:91202123; PMID:2016597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 32;
                                                                                                                                                                                                                                                                                                                                                                      400 SQMLRTGNNF-TFSYTFEDVPFHSSYAHSQSLDRLMN--PLIDQYLYYLSRTNTPS-GTT 455
                                                                                                                                                                                                                                                                                                                                                                                               :||||: | | :: |: | | | | :: | 395 VHLLRTGDEFATGTFFFDCKP--CRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQ 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         598 TALN-NVPPVÝPNGQIWDKEFDTĎ-----LKPRLHVNAPFVCQNNCPGQLFVKVAPNL 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         103
      115 SKPPPHIFINLAKKKKAGAGQV---KRDNLAPMSDGAVQPDG---GQPAV-----RNER 162
                                                                                                                          256 LYKQI-----SSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFR 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHP-----PPQILIKNTPVP 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66 TKDATDWGGKIGHYFFRAKKAIAPVLTDTPDNPSTSRPTK--PTKRSKPPFHIFINLAKK 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          104 LKEDTSFGGNLGRAVFQAKKRVLEPL-GLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGK- 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: mink enteritis virus, MEV
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 09-Jul-2004
                                                                     221 NYKRVVVNNMDKTAVKGNMALDDIHVQIVTPWSLVDANAMGVWFNFGDMQLIVNTWSELH
                                                                                                                                                                                                      308 PKRLNFKLFNIQVKEVTQN---DGTTTIANNLISTVQVFTDSEYOLPYVLGSAHQGCL--
                                                                                                                                                                                                                                                                                      ----PPFPA-----SFYCLE-YFP
                                                                                                                                                                                                                                                                                                                            341 YPWKPTIPTPWRYYFQWDRTLIPSH-----TGTSGTPTNVYHGTDPDDVQFYTIENSVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----GPFKTPIAAGRGGAQTDENQAADGDPRYAFGRQHGQKTTTTGETPERFTYIAHQDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQER
                                              ATGSG-APMADNNEGADGVGNSSGNWH-----CDSTWMGDRVITTSTRTWALPTYNNH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----KVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    516 LVNPGP-----AMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIE------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ANPSTIFSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          453 QDKRRGVTQMGNTDYITEATIMRP------AEVGYSAPYYSFEASTQ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels 169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 722;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A,Cross-references: UNIPROT:P27437, GB:D00765
C,Superfamily: parvovirus coat protein
C;Keywords: coat protein
F;139-722/Product: coat protein VP2 #status predicted <VP2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            coat protein VP1 - mink enteritis virus (strain Abashiri)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11.3%; Score 452.5; DB 1;
24.8%; Pred. No. 9.7e-22;
cive 99; Mismatches 306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 11.3%
Best Local Similarity 24.8%
Matches 189; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N; Contains: coat protein VP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A, Accession: B38350
A, Molecule type: DNA
A, Residues: 1-722 <KAR>
                                              204
                                                                                                                                                                                                                                                                                      363
                                                                                                                                                                                                                                                                                                                                                                                                                                                      456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
                                                                                g
                                                                                                                      δ
                                                                                                                                                          엄
                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                              ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Coat protein VP1 - feline panleukopenia virus (strain 193)
N;Contains: coat protein VP2
C;Species: feline panleukopenia virus, FPLV
C;Species: feline panleukopenia virus, FPLV
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 09-Jul-2004
C;Accession: B36608
R;Martyn, JC.; Davidson, B.E.; Studdert, M.J.
J. Gen. Virol. 71, 2747-2753, 1990
A;Title: Nucleotide sequence of feline panleukopenia virus: comparison with canine parvo A;Reference number: A36608 MUID:91073139; PMID:2174965
A;Accession: B36608
A;Molecule type: DNA
A;Residues: 1-727 < WAR>
A;Residues: 1-727 < WAR>
A;Residues: uNIPROT:P24840; GB:X55115
C;Superfamily: parvovirus coat protein
C;Keywords: coat protein
F;144-727/Product: coat protein
                                                                                                                                           309 KRLNFKLFNIQVKEVTQN---DGTTTIANNLTSTVQVFTDSEYQLPXVLGSAHQGCL--- 362
                                                                                                                                                                  ::||::||::|| |:::|
282 VSFEQEIFNVVLKTVSESATQPPTKVYNNDLTASLMVALDSNNTWPFTPAAMRSETLGFY 341
                                                                                                                                                                                                                           ---PPFPA-----DVFMVPQYGYLTLNNGSQAVGRS-----SFYCLE-YFPS 400
                                                                                                                                                                                                                                                               342 PWKPTIPTPWRYYFQWDRTLIPSH-----TGTSGTPTNIYHGTDPDDVQFYTIENSVPV 395
                                                                                                                                                                                                                                                                                                                                QSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSL 516
                                                                                                                                                                                                                                                                                                                                                                                                                             454 DKRRGVTOMGNTDYITEATIMRP-----493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ------KVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLP 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             551 RYPAGDWIQNINFNLPVTNDNVLLPTDPIG----GKTGINY-----TNIFNTYGPLT 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHP-----PPQILIKNTPVPA 655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90 YLKYNHADAEFQERLKEDTSFGGNLGRAVFQAKKRVLEPL-GLVEEPVKTAPGKKRPVEH 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SPVEPDSSSGTGK----AGQQPARKRLNFGQTGDADSVPDPQPLGQPPAAPSGLGTNTM 203
---GPFKIPIAAGRGGAQTDENQAADGDPRYAFGRQHGQKTTTTGETPERFTYIAHQDTG 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALM-NVPPVYPNGQIWDKEFDTD-----LKPRLHVNAPFVCQNNCPGQLFVKVAPNLT 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 PPAKRAR-----RGLVPPGYKYLGPGNSLDQGEPTNPSDAAKEHDEAYAAYLRSGKNP
                                                           257 YKQI-----SSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRP
                                                                                        QMLRTGNNF-TFSYTFEDVPFHSSYAHSOSLDRLMN--PLIDQYLYYLSRTNTPS-GTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     517 VNPGP-----AMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIE------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30 PPPKPAERHKDDSRGLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NPSTIFSAAKFASFITOYSIGOVSVEIEWELOKENSKRWNPEIGYISNYNKSVNVD 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels 175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 727;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11.5%; Score 457.5; DB 1; 24.8%; Pred. No. 4.6e-22; ive 99; Mismatches 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sal Similarity 24.8
193; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               149
                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                         457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                          8686
                                                                                                                                                                                                                                                                                            8 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                       8 8
                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                               상
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
```

Shinag of the

of mice, MVM(1), and c	::CAB46507.1; PID:g54199	589 QO		10 Db 549	659 IVT-YSDFWWKGKLVFKAKLRASHTWNP-IQQMSINVD 694	669 FITQYSTGQVSVELEWELQKENSKEWNPELQYTSNYNKSVNVD 711	606 QIWDKEFDTDLKPRLHVNAPFVCQNNCPGQLFVKVAPNLTNEYDPDASANMSR 658	616 PIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS 668	615 605 QY 457	Db 387	da 612	261 QY 105	171 Db 1	216 OV 45	
Db 685.1: PID:954199 RESULT 11	Db 685	_	09-Jul-20	Oy 599 Db 582 09-Jul-2004 653 Db 626	Db 549 Qy 599 Db 582 Db 653	Oy 539 Db 549 Qy 599 Db 582 O9-Jul-2004 Db 653	Db 495 QGVDREANGSVRYSY- QY 539 VLIFGKQGSEKTNVDI Db 549 PLVVPPPLNG QY 599 GVLPGMVWQDRDVYLQ QY 599 GVLPAFS-HPSPVYPQ QY 653VPANPSTTF Db 626 GQMLVRLGPNLTDQYDE	Depasanwsr 658 Db 495 QG Qy 539 VL Db 549 PL Db 659 GPI	Db 441 DPDASANMSR 658 DP 495 GO OY 539 VL DP 549 PL DP 649 PL	QY 457 -NVPPVYPNG 605	PEQEIFNIVIL 31	Comparison Com	CANONINADIATA 229 Db CF	Colored Colo	
.ants of the autonomous	ants of the autonomous Qy 703	ants of the autonomous Qy 703	Db 582 dp 09-Jul-2004 653	QY 599 Db 582 09-Jul-2004 QY 653	Db 54.9 PLVVPPPLNG QY 59.9 GVLPGMVWQDRDVXLQG Db 58.2 GPLTAFS-HPSPVYPQG O9-Jul-2004 QY 653VPANDSTTF	Oy 539 Db 549 Qy 599 Db 582 1	Db 495 QGVDREANGSVRYSY- QY 539 VLIPGKQGSEKTNVDI Db 549 PLVVPPPLNG QY 599 GVLPGMVWQDRDVYLQ Db 582 GPLTAFS-HPSPVYPQ OY 653VPANPSTTF	Depasanws 658 Depasanws 658 Depasanws 658 Or 539 VL Depasanws 659 Or 599 GV Depasan 659 Or 659 GV Depasan 653	DD 441 DPDASANMSR 658	TYPEAAKFAS 668 Db 441	PEPDEAL NOTE 164 102 104 105 1		CANONINAMENTA 229 DD	CONTRIBUTION CONT	
ants of the autonomous Qy 703 Db 685 :CAB46507.1; PID:954199 WINDAWLD 11	ants of the autonomous Qy 703	ants of the autonomous Qy 703	Db 582	QY 599 Db 582	Db 54.9 PLVVPPPLNG QY 59.9 GVLPGMVWQDRDVXLQG Db 58.2 GPLTAFS-HPSPVYPQG	Ay 539 Db 549 Ay 599 Db 582	DD 495 QGVDREANGSVRYSY- QY 539 VLIPGKQGSEKTNVDI DD 549 PLVVPPPLNG QY 599 GVLPGMVWQDRDVXLQ DD 582 GPLTAFS-HPSPVYPQ	DPDASANMSR 658 DD 495 QG QY 539 VL DD 549 PL DD 599 GW	DPDASANMSR 658 DPDASANMSR 658 DD 495 00 QY 539 VL DD 549 PL	TTFSAAKFAS 668	PEGDEIFNIVOLK 321	Color Colo		CONTRIBUTION CONT	
ants of the autonomous Qy 703 CAB46507.1; PID:954199 RESULT 11	ants of the autonomous Oy 653	ants of the autonomous Qy 703		ON 599	Db 549 PLVVPPPLNG QY 599 GVLPGMVWQDRDYZLQG	Oy 539 Db 549 Oy 599	DD 495 QGVDREANGSVRYSY. QY 539 VLIFGKQGSEKTNVDI DD 549 PLVVPPPLIG QY 599 GVLPGMVMQDRDYLQ	DPDASANMSR 658 DD 495 Q7 QY 539 VL DD 549 PL DD 549 PL QY 599 GVI	DD 441 DPDASANMSR 658 DD 495 DPDASANMSR 658 DD 495 QO QY 539 VL DD 549 PL DD 549 PL	QY 457 -NVPPVYPNG 605	PEQEIFNIVUK 321		CANOTYNIAMONTA 229 DD CANOTYNIAMONTA 229 DD CANOTYNIAMONTA 229 DD CANOTYNIAMONTA 229 DD CANOTYNIAMONTA 229 DD CANOTYNIAMONTA 239 DD CANOTYNIAMONTA 239 DD CANOTYNIAMONTA 239 DD CANOTYNIAMONTA 230 CONTRICTOR CON		
MITDEEEINTTNPVATEOYGSVSTNLORGURRQAATADVNTOGVLPGWAVWODRDVYLOG 615 H.	MQDRDVXLQG 615 MQDRDVXLQG 615 CV 457 CV 457 CV 495 CV 495 CV 495 CV 495 CV 495 CV 539 CV 653 CV 703 MQDRDVXLQG 615 MQDRDVXLQG 615 OY 457 OY 495 TTPSAAKFAS 668 DPDASANMSR 658 DPD 495 QY 539 Q OY 539 Q DPD 549 E DPD 549 G DPD 549 E DPD 549 E DPD 549 E DPD 549 E DPD 549 G DPD 549 E DPD 549 E DPD 549 G DPD 549 E DPD 549 G DPD 549 E DPD 549 G DP	556 KVMITDEEEIRTTNPVATEGYGGNRQAATADVNTGGVLPGMVWQDRDVYLQG 615 559 NLPVTNDNVLLPTDPIGGKTGINYTNIFNTYGPLTALN-NVPPVYPNG 605 616 PIWAKIPHTDGHPHPSPLMGGPGLKHPPPQILIKNTPVPANPSTTFSAAKFAS 668 606 QIWDKEPTDLKPRLHVNAPFVCQNNCPGQLFVKVAPNLTNEYDPDASANMSR 658 606 QIWDKEPTDLKPRLHVNAPFVCQNNCPGQLFVKVAPNLTNEYDPDASANMSR 658 607 QIWDKEPTD	556 KVMITDEELIRTTHPVATEQYGSVSTNLQRGNRQAATADVNTQGYLPGMVWQDRDVYLQG 615 559 NLPVITNDLPTDPIGGKTGINYTNIFNTYGPLTAIN-NVPPVYPNG 605 616 PIWAKI PHTDGHFHP8PLMGGFGLKHPPPQILIKNTPVPANBSTTFSRAKFAS 668 606 QIWDKBFDIDLKPRLHVNAPFVCQNNCPGQLFVKVAPNLTNEYDPDASANMSR 658 609 FITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVD 711 659 IVT-YSDFWWKGRLVFKAKLRASHTWNP-IQQMSINVD 694	556 KVMITDEELIKTINPVATEQYGSVSTNLQRGARADANITGGYLPGMYWQDRDVYLQG 615 559 NLPVINDNVLLPTDPIGGKTGINYTNIFNTYGPLTAIN-NVPPVYRNG 605 616 PIWAKIPHTDGHPHPSPLMGGFGLKHPPQILIKNTPVPANPSTTFSAAKFAS 668 606 QIWDKEFDTDLKPRLHVNAFVCQNNCPGQLFVKVAPNLTNEXDPDASANMSR 658 669 FITCYSTGQVSTGAVSVELEWELQKENSKRWNPBIGYTSNYNKSVNVD 711	556 KVMITDEEEIRTTHPVATEQYGSVSTNLQRGARADANATQGYLPGRWWQDRDVYLQG 615 559 NLPVITNDIALPTDPIGGKTGINYTNIFNTYGPLTAIN-NVPPVYENG 605 616 PIWAKI PHTDGHFHP8PLMGGFGLKHPPPQILIKNTPVPANPSTTFSRAKFAS 668 606 QIWDKEFDTDLKPRLHVNAPFVCQNNCPGQLFVKVAPNLTNEYDPDASANMSR 658	556 KVMITDEELRTTHPVATEQYGSVSTNLQRGNRQAATADVNTGGVLPGMVWQDRDVYLQG 615 559 NLPVTNDNVLLPTDPIGGKTGINYTNIFNTYGPLTALN-NVPPVYPNG 605 616 PIWAKIPHTGHPHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS 668 Db 441	556 KVMITDEEEIRTTHPVATEQYGSVSTNLQRGNRQAATADVNTQCYLPGMVWQDRDVYLQG 615 : :	556 KVMITDBEBIRTINPVATEQYGSVSINLQRGNRQAATADVNITORU. BOMMINGHED NIVE CO. 225		230 VÄGNMÄLDDTHVOIVTPWISLUDANAMGVWFNPGDMQLITVATMSELHLVSFEGEIFNIVULK 289 322 BVTQNDGTTTIANNLTSTVQVFTDSEVQLPYVLGSAHQGCLPPPPA 367 290 TVSESATQPPTKVYNNDLTASLANVALDSNNTWPFTPA-MKSELTGFYPWKPTIPTPWRYY 349 368DVFMVPQYGYLTLINNGSQAVGRSSFYCLE-YPPSQMLRTPNNYY 349 368DVFMVPQYGYLTLINNGSQAVGRSSFYCLE-YPPSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTGGTPTNIYHGTDPDDVQFYTIENSVPUHLLRTGDEFATGT 403 413 YTFRDVFFHSSYAHGGLDRLMNPLIDQYLYYLSRTHYPS-GTTTOSRLQFSQAGASD 469 404 FFPDCKPCRLTHTWQTNRALGIPPFLASLPQSEGATNFGDIGVQDXRRGVTQMGNTD 461 410 IRDQSRNWLPGPCYRQQNVSKTSADNNNSEYSWTGATXYHLANGRDSLVNPGPA 522 462 YITEATIMRPABVGYSAPYYSFEASTQGPFKTPIAAG 498 523 MASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEGPFKTPIAAG 498 527 E	262 SQSGASNDNHYPGYSTPWGYFDENRFHCHFSPRDWORLINNNWGFRPKRINFKLENIOWK 321 230 VKGNMALDDTHVQIVTPWSLUDANAMGVWFPPGDWQLIVNTWSELHLVSFEQEIFNVVLK 289 322 BVTQNDGTTTIANNLTSTVQVFTDSEVQLPYUGSAHQGCLPPFPA367 230 TVSESATQPPTKVYNNDLTASLAVALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFWVPQYGYLTLANGSQAVGRSSFYCLE-YPPSQMLRTGNNF-TFS 412 350 TVSESATQPPTKVYNNDLTASLAVALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFWVPQYGYLTLANGSQAVGRSSFYCLE-YPPSQMLRTGNNF-TFS 412 350 TQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLLATGDEFATGT 403 413 YTPEDVPFHSSYAHSQSLDRLAMPLIDQYLYYLSRTNTPS-GTTTQSRLQFSQAGASD 469 404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQQDKRRGYTQMNTD 461 470 IRDQSRNWLPQFCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRP	172 GSGGVGISTGTENNINGTERERELENGWYEITANSSRLVHLAMPESENYKRVVNNMDKTA 229 262 GGGGVGISTGTENNIQTERERELENGWYEITANSSRLVHLAMPESENYKRVVNNMDKTA 229 262 GGGGGGSNDNHYFOXSTDWGYFDENDWGLINNWGFRPKRLAFLENIQVK 331 614 614 615 6	Y. 217 GADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTWNHLYGTS 261 172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSSELVHLANMPESENYKRVVNNNHDKTA 229 262 SGGGSNDNHYFGYSTPWGYFDENRFHCHFSPRDWGRLINNNWGFRPKRLPRIGVK 321 230 VKGANWALDDTHYOLVTPWSLVDANAWGVWFNFGDWGLIVNTWKK 289 322 BVTQNDGTTTIANNLTSTVQVFTBSKQLDFVLGSAHGGCLPPPPA 367 230 VKGANWALDTHYOLVTPWSLVDANAWGVWFNFGDWGLIVNTWK 289 322 BVTQNDGTTTIANNLTSTVQVFTBSKQLPYLGSAHGGCLPPPPA 367 230 VKGANWALDTHYOLVTPWSLANVALDSNNTWFFTPAAMRSETLGFYPWKPIIPTWRYY 349 240 TVSESATQPFTKVYNNDLTASLANVALDSNNTWFFTPAAMRSETLGFYPWKPIIPTWRYY 349 368DVFWVPQYGYLTLANGGSQAVGRSSFYCLE-YFPSQMLRTGNNFYTT 403 360DVFWVPQYGYLTLANGGSQAVGRSSFYCLE-YFPSQMLRTGNFYTT 403 361TGTSGTPTNTYHGTDPDDVQFYTIENSVPHILLRTGDEFATGT 403 362TGTSGTPTNTYHGTDPDDVQFYTIENSVPHILLRTGDEFATGT 403 363TGTSGTPTNTYHGTDPDDVQFYTIENSVPHILLRTGDEFATGT 403 364 WASHEDKFPC-CRLTHTWQTNRALGLPPFINSLPSGEGATKFPIAAG 499 410 IRDQSRNMLPGPCYRQORVSTTSADNNNSEYSWTGATKYHLNGRDSLVNPGQP	124 KXAGAĞQVKRDNLAPMSDGAVQPDQGQPAV	
AGDWIGNINF 558 MQDRDVYLQG 615 I-NVPPVYPNG 605 DD 387 ATTESAAKFAS 668 DPDASANMSR 658 DD 441 A95 QY 495 QY 539 DD 549 6 DD 582 6 DD 626 6 DD 626 6 DD 626 6 DD 626 703 N CAB46507.1; PID:954199 RESULT 11	AGDWICNINF 558 AMODRDVYLOG 615 I WODRDVYLOG 615 WODRDVYLOG 615 WADRDVYLOG 615 WADRDVYLOG 615 Db 441 A41 DPDASANMSR 658 Db 495 QY 539 V DD 549 E DD 549 E DD 549 E DD 549 E DD 626 G DD 626 G DD 626 G DD 626 G	PAGDWIQNINF 558 PAGDWI		499 RGGAQTDENQAADGDPRYAFGRQHGOKTTTTGETPERFTYIAHQDTGRYPAGDWIQNINF 558 556 KWHIDBEEIRTTNPVATEQYGSVETNLQRGARADANTQGVLPGMYWQDRDVYLQG 615 559 NLPVTNDNVLLPTDPTGGKTGINYTNIFNTYGPLTALN-NVPPVYPNG 605 616 PIWAKIPHTDGHPHPSPLMGGFGLKHPPQLILIKNTFVPANPSTTFSAAKFAS 668 606 QIWDKBFDTDLKPRLHVNAPFVCQNNCPGQLFVKVAPNLTNEXDPDASANMSR 658 669 FITQYSTGQVSVEIEWELQKENSKRWNPBIQYTSNYNKSVVAPNLTNEXDPDASANMSR 658 619 FITQYSTGQVSVEIEWELQKENSKRWNPBIQYTSNYNKSVVAPNLTNEXDPDASANMSR 658 619 FITQYSTGQVSVEIEWELQKENSKRWNPBIQYTSNYNKSVVAPNLTNEXDPDASANMSR 658 610 FITQYSTGQVSVEIEWELQKENSKRWNPBIQYTSNYNKSVVAPNLTNEXDPDASANMSR 658 610 FITQYSTGQVSVEIEWELAASHTWNP-IQQMSINVD 694	499 RGGAGTDENGANDGDPRYAFGRQHGCKTTTTGETPERFTYIAHQDTGRYPAGDWIQNINF 558 556 KVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGWWQDRDVYLQG 615 559 NLPVTNDVVLPTDDFIGGKTGINYTNIFNTYGPLTAIN-NVPPVYPNG 605 616 PIWAKI PHIDGHPHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSBARKPAS 668 606 QIWDKBFDTDLKPRLHVNAPFVCQNNCPGQLFVKVAPNLTNBYDPDASANMSR 658 669 FITQYSTGQVSUEIBWELQKENSKRWNPRIGYTSNYNKGVNVD 711	499 RGGAGTDENQAADGDERYAFGRQHGQKTTTTCETPERFTYIAHQDTGRYPAGDWIQNINF 558 556 KWHIDDEERTTYINPVATEQYGSVETHLGRGARGAATADVATGGVLPGWWQDRDVYLGG 615 559 NLPVTNDNVLLPTDPIGGKTGINYTNIFNTYGPLTALN-NVPPVYPNG 605 616 PIWAKIPHTDGHPHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAARKPAS 668 606 QIWDKBFDTDLKPPRLHVNAPFVCQNNCPGQLFVKVAPNLTNEYDPDASANMSR 658 QY 495	499 RGGAGTDENGADGDPRYAFGRQHGQKTTTTGETPERFTYIAHQDTGRYPAGDWIQNINF 558 556 KVMITDEEEIRTTNPVATEQYGSVSTNLQRGRARQAATADVNTQGVLPGWWQDRDVYLQG 615 559 NLPVTRDNVLLPTDPIGGKTGINYTNIPNTYGPLTALN-NVPPVYPNG 605 616 PIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS 668 Db 441	499 RGGAQTDENQAADGDPRYAPCRQHGCKTTTTGETPERFTYIAHQDTGRYPAGDMIQNINF 558 556 KVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYLQG 615 559 NLPVTNDNVLLPTDPIGGKTGINYTNIFNTYGPLTA.N-NVPPVYPNG 605	499 RGGAQTDENQAADGDPRYAFGRQHQQYTTTTGETPERFTYIAHQDTGRYPAGDWIQNINF 558 CY 401 556 KVMITDEEEIRTTRPVATEQYGSVSTNLQRGNRQAATADVNTOGUTBCHAMMANDADTYN CO. 227 Db 387	499 RGGAQTDENQAADGEPRYAPGRQHGQKTTTTGETPERFTYIAHODTGRYPAGMIONINF EED QY 401	230 VÄCHWALDDTHVQIVTPWSLVDANAMGVWFNBGDWGLITVMTWSELHLVGFEGEIFNIVULK 289 322 BVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPA 367 290 TVSESATQPPTKVYNNDLTASLAVALDSNNTWPFTPAAMSETLGFYPWKTIPTPWRYY 349 368DVFMVPQYGYLTLINNGSQAVGRS	262 SQSGASNDNHYPCYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRINNTY 321 230 VKGNMALDDTHVQIVTPWSLVDANANGVWFNPGDWQLINNNWGFRPKRINNTKLENNOVK 321 232 BYTONDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPPPRA 367 242 BYTONDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPPPRA 367 250 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMSETLGFYPWKPTITPTPWRYY 349 268DVFMVPQYGYLTIANNGSQAVGRSSFYCLE-YPPSQMLRTGNNF-TPS 412 368DVFMVPQYGYLTIANNGSQAVGRSSFYCLE-YPPSQMLRTGNNF-TPS 412 368DVFMVPQYGYLTIANNGSQAVGRSSFYCLE-YPPSQMLRTGNNF-TPS 412 369DVFMVPQYGYLTIANNGSQAVGRS	172 GSGCVGISTGTENNIQTEEFFELENGWVEITANGSRLVHLAMPESENYKRVVNNMDKTA 229 262 SGGCVGISTGTENNIQTEEFFELENGWVEITANGSRLVHLAMPESENYKRVVNNMDKTA 229 262 SGGCVGISTGTENNIQTEEFFELENGWVEITANGSRLVHLAMPESENYKRVVNNMDKTA 229 263 VKGNMALDDTHVQIVTPWGLVDANAMCVWFNPGDWQLINNYMGERPKRLAFLENIQVK 289 322 BVTQNDGTTTIANNLTSTVQVFTDSEVQLIVVIGSAHQGCLPPFPAA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFMVPQYGYLTLANNGGOAVGRSFFYCLE-YPPSQMFTTPTPWRYY 349 368DVFMVPQYGYLTLANNGGOAVGRS	TO THE PROCESSION TO THE TRANSPORT OF TH	Matches 201 Matches 201
DD 327 ETLGFYPWKPTIASPYRYPECURED.	D	D		523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	523 MASHKDDEEKFFQGGVLIFGKQGSEKTNVDIE	523 MASHKDDEEKFPQSGVLIPGKQSSEKTNVDIE	230 VKGNWALDDTHVQIVTPWSLVDANAMGVWFVREDDWCLIVNTMSELHLVSFEQEIFNVVLK 289 322 BYTONDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHGGCLPPFPA 367 290 TVSESATQPPTKVYNNDLTASLWVALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRKY 349 368DVFWVPQYGYLTLNNGGAVGRSSFYCLE-YFPSQMLRTGNNF-PFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLLRTGDEFATGT 403 413 YTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPS-GTTTGSRLQFSQAGASD 469 404 FFPDCKPCRLTHTWQTNRALGIPPFLNSLPQSEGATNFGDIGVQQDKRRGYTQMSNTD 461 470 IRDQSRNWLPQDPCYRQORVGKTGADNNNSEVSGWCARAND	262 SQSGASNDNHYPGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGPRPKRLINFKLENIQVK 321 230 VKGNMALDDTHYQIVTPWSLVDANAMGVWFNPGDWQLINNNWGPRPKRLINFKLENIQVK 321 322 SYTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPPPA 367 290 TVSESATQPPTKVYNNDLTASLAVALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFWVPQYGYLTLINNGSQAVGRSSFYCLE-YPPSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLLRTGDEFATGT 403 413 YTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPS-GTTTQSRLQPSQAGASD 469 404 FFFDCKPCRLTHTWQTNRALGIPPFLNSLPQSEGATNFGDIGVQQDKRRGYTQMSNTD 461 470 IRDQSRNWLPQPCYRQORVSKTRANNNNSEVSGATARANNNSEVSGATARANNNSEVSGATARANNNSEVSGATARANNNSEVSGATARANNNSEVSGATARANNNSEVSGATARANNNSEVSGATARANNNSEVSGATARANNNNSEVSGATARANNSEVSGATARANNSEVSGATARANNSEVSGATARANNNSEVSGATARANNSEVSGATARANNSEVSGATARANNSENGATARAN	172 GSGGVGISTGTENNOTEEFKFLENGWY::	217 GADGGVGNSGNWHCDSTWMGDRVITTSTRTWALPTYNHLYKOIS 261 172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSFRLVHLNMPESENYKRVVNNMDKTA 229 262 SGGGSNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIOVK 321 230 VKGNWALDDTHVQIVFPWSLVDANAMGVWFNPGDWQLINNNWGFRPKRLNFKLFNIOVK 321 230 VKGNWALDDTHVQIVFPWSLVDANAMGVWFNPGDWQLINNYMSELHLVSFEGEIFNVVLK 289 322 BYTQNDGTTTIANNLTSTVQVFTDSEYQLPYLGSAHQGCLPPPPA 367 290 TVSESATQPPTKVYNNDLTASLANALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFWVPQYGYLTIANGSQAVGRSSFYCLE-YFPSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLLRTGDEFATGT 403 413 YFFPDCKPTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLLRTGDEFATGT 403 414 YFFPDCKPCRLTHTWQTNRALGIPPFLASLPQSEGATNFGDIGVQDCRRCGTGRGNTD 461 470 IRDQSRNWLPGDFCYROORVSKTRANNAMSEVSENGARANAMGNTD 461 470 IRDQSRNWLPGDFCYROORVSKTRANNAMSEVSENGARANAMGNTD 461 470 IRDQSRNWLPGDFCYROORVSKTRANNAMSEVSENGARANAMGNTD 461	124 KKAGAGQVREDNILADBYDPOPLGOPPAAPSGLGTNTWATGSG-APMADNNE 216
Db 267 SQLNLVSiDOBIFNVVIKTYPEDBG QY 360 GCLPPPPADVFMVPOYGY	PGP		## 462 YITEATIMRP—————AEVGYSAPTVAHINGEDSLVNPGP———————————————————————————————————	462 XITEATIMEP 267 SQLNLVSEXSADNINGSEYSWTGATKYHINGRDSLVNPQP 267 SQLNLVSEXDOSIFNVVIKTYHEDGE 267 SQLNLVSEXDOSIFNVVIKTYHEDGE 267 SQLNLVSEXDOSIFNVVIKTYHEDGE 267 SQLNLVSEXDOSIFNVVIKTYHEDGE 268 STITCHEDGE 268 STITCHEDGE 268 STITCHEDGE 268 SQLNLVSEXDOSIFN 268 STITCHEDGE 268 STI	462 XITEATIMEPAEVGXSADYNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADNINGSTYSADYNINGST	462 YITEATIMEPOTEKRYSADNINGERSWITGATKYHINGRDSLUNDGPA 522 462 YITEATIMEPAEVGYSAPYYSERASTOGPFKTPIAGG 498 523 MASHKDDEEKFPQSGULIFGKQSEKTINVDIE	462 YITEATIMEPAEVGXSADYNEESTSWTGATKYHINGRDSLVNPGPA 522	462 YITEATIMRP————————————————————————————————————	462 YITEATIMRPABVGYSKTSADNINISEYSWTGATKYHINGRDSLUNDGPA 522 462 YITEATIMRPABVGYSRATIVOLIEGPFKTPIAAG 498 523 MASHKDDERKFPQSGVLIFGKQGSRKINVDIE	### 10 10 10 10 10 10 10 1	230 VKGNWALDDTHVQIVTPWSLVDANAMGVWFNRGDWQLIYNTMSELHLVSFEGEIFNVVLK 289 322 BVTGNWALDDTHVQIVTPWSLVDANAMGVWFNRGDWQLIYNTMSELHLVSFEGEIFNVVLK 289 322 BVTGNVDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPRA	262 SQBGASNDNHYPGYSTPWGYPDRRFHCHFSPRDWQRLINNNWGPRPKRLINFKLENIOVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAMGVWFNPGDWQLIVNTWSELHLVSFEQEIFNVVLK 289 322 BVTQNDGTTTIANNLTSTVQVFTDSEVQLPYVLGSAHQGCLPPFPA 367 290 TVSESTQPPTKVYNNDLTASLAVALDSNNTMPFTPAAMRSETLGFPWKPTIPTPWRKY 349 368DVFWVPQYGYLTLANGGOAVGRSSFYCLE-YFPSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLLRTGDEFATGT 403 413 YTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPS-GTTTQSRLQFSQAGASD 469 207 12	172 GSGGVGISTGTENNOTEFFELENGWV:: : :	217 GADGVGRSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQIS 261 172 GSGGVGLSTGTFNNQTEFKFLENGWVEITANSSRLVHLNMFESENYKRVVNNMDKTA 229 262 SGGGSNDNHYFGYSTPMGYFDFNRFHCHFSPRDWGRLINNWGPRPKRLNFKLFNLOVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAMGVWFNPGDWGLIVNTWSELHLVSFEGEIFNVVLK 289 322 BYTGNDGTTTIANNLTSTVQVFTDSSRQLPYVLGSAHGGCLPPFPRA 367 290 TVSESATQPPTKVYNNDLTASLWVALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 368DVFWVPQYGYLTLANNGGQAVGRSSFYCLE-YFPSQMLRTGDFFATGT 403 350 FQMDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLLRTGDEFATGT 403 413 YTFEDVPFHSSYAHSQSLDRLWNPLIDQYLYLSRTNTPS-GTTTQSRLQFSQAGASD 469 507 E	124 KKAGAGGVKRDNLAPMSDGAVQPDGGOPPAAPSGLGTNTWATGSG-APMADNNE 216 124 KKAGAGGVKRDNLAPMSDGAVQPDGGOPPARNERATGSGGGGGGG 171 4
REGIT	B	Cy 304 WGFRPKRINFKLFWIGUKEVTQND-G Control Cont	404 FFFDCKPCRLTHTWQTNRALGLPPFINSLPQSEGATNFGDIGVQDXRRGTTD 461 470 IRDQSRNWLPGPCYRQCRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGP	404 FFEDCKPCRLTHTWQTNRALGLPPENSLPOSEGATNFGDIGVOQDKRRGTTGHT 461 470 IRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPP	404 FFPCKPCRLTHTWQTNRALGLPPPINSLPQSEGATNPGDIGVQQDKRRG'I	404 FFPCKPCRLTHTWQTNRALGLPPFINSLPQSEGATNFGDIGVQDDKRRGT	404 FFFDCKPCRLTHTWQTNRALGLPPPINSLPQSEGATNFGDIGVQQDKRRGTJQMGTTD 461 470 IRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGYSAPYYSFEASTQGPFKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIEGPFKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQQDKRRGTTGMTD 461 470 IRDQSRNWLPGPCYRQCNGSKTSADNNNSEYSWTGATKYLLNGRDSLVNPGP	404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQQDKRRGVTQMGNTD 461 470 IRDQSRNWLPGPCYRQQRVSKTSADNINSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGYSAPYYSFEASTQGPFKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTINVDIE	### 404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQDDKRRGTTQND-G ####################################	230 VKGNWALDDTHVQIVTPWSLVDANAWGVWFNPGDWCLIVNTMSELHLVSFEQEIFNVVLK 289 322 BVTQNDGTTTIANNLISTVQVFTDSEYQLPYVLGSAHQGCLPPFPA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 368DVPWVPQYGYLTLNNGSQAVGRSSPYCLE-YPRSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLRTGDEFATGT 403	262 SQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVPFNGPRPKLLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVPFNGSHLLVSFEQEIFNVVLK 289 322 BVTQNDGTTTIANNLTSTVQVFTDSEVQLPYVLGSAHQGCLPPPPA 367 290 TVSESATQPPTKVYNNDLTASLWYALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 290 TVSESATQPPTKVYNNDLTASLMYALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFWVPQYGYLTLANGSQAVGRSSFYCLE-YFPSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPWHLLRTGDEFATGT 403	172 GSGGVGISTGTFNNQTEFKFLENGWY=: : : : : : : : : :	217 GADGVGNSSGNWHCDSTWMGDRVITTSTRIWALPTYNNHLYKQIS 261 172 GSGGVGISTGTENNQTEFKFLENGWVEITANSSRLVHLAMPESENYKKVVNNMDKTA 229 262 SQSGGSNDNHYPGYSTPWGYPENREHCHFSPRDWGRLINNNWGPRPKRLINFKLENIQVK 321 230 VKGNMALDDTHVQIVTPWGLVDANAWGVWFNPGDWQLIVNTWSELHLVSFEQEIFNVVLK 289 322 EVTQNDGTTTIANNLTSTVQVPTDSEYQLPYVLGSAHQGCLPPPPA 367 290 TVSEATQPPTKVYNNDLTASLWVALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFWWQPGYLTLANNGSQAVGRSSFYCLE-YFPSQMLRTGNNP-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPHILRTGDEFATGT 403	124 KKAGAGQVKRDNLAPMSDGAVQPDACRIERATGSGAGGGG 171 217 GADGVGNSGANWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQIS 261 172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSFRLYMPLYKRVVNNMDKTA 229 262 SQGGASNDNHYFGZSTFWGYPDFNRFHCHFSPRDWQRLINNNWGPRPKRLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLINNNWGPRPKRLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLINNTWSELHLVSFEQEIFNVTK 289 322 BVTQNDGTTTIANNLTSTVQVFTGSAHQGCLPPPFPA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 368DVFWVPQYGYLTLIANGSQAVGRSSFFCLE-YFPSQMLRTGNNF-TFS 412 350 FQWMRTLIDSHTGTSGTPTNIYHGTDPDDVQFYTIENSVVHILLRTGDEFATGT 403
			404 FFPCKPCRLTHTWQTNRALGLPFELNSLPQSEGATINFOGLOGNERS 469 407 IRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLAGTDSLVNPGPA 52 408 TATO IRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLAGTDSLVNPGP	404 FFFDCKPCRLTHTWQTURALGLPPFLNSLPGSGATUREGUGGGGGGSD 469 470 IRDQSRNMLPGPCYRQRVSKTSADNINNSEYSWTGATKYHINGRDGVQDKRKGVTQMGNTD 461 470 IRDQSRNMLPGPCYRQRVSKTSADNINNSEYSWTGATKYHINGRDSLVNDGPA 522 462 YITEATIMRPAEVGYSAPYYSFEASTQGPFKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTINVDIEGPFKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTINVDIE	404 FFFDCKPCRLTHTWQTURALGLPPFLINSLEGATURES-GTTTQSRLQFSQAGASD 469 404 FFFDCKPCRLTHTWQTURALGLPPFLINSLPQSEGATUREDIGVQDKRRGTTQMGNTD 461 470 IRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGYSAPYYSFEASTQGFFKTPIAAG 498 523 MASHKDDEKFFPQSGVL FGKQGSEKTNVDIEGFFKTPIAAG 498 524 MASHKDDEKFFPQSGVL FGKQGSEKTTNVDIE	404 FFFDCKPCRLTHTWQTURALGLPPFILNSUEARTHYPS-GTTTQSRLQFSQAGASD 469 404 FFFDCKPCRLTHTWQTURALGLPPFILNSLPQSEGATNFGDIGVQDKRKGTGWGNTD 461 470 IRDQSRNWLPGPCYRQCRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPABVGXSAPYYSFEASTQGFFKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTTVDIE	404 FFFDCKPCRLTHTWQTURALGLPPPLINSCHTNTPS-GTTTQSRLQFSQAGASD 469 470 IRDQSRNWLPGPCYRQRVSKTSADNNNSEYSWTGATKYHINGEDGVQDKRRGYTQMGNTD 461 470 IRDQSRNWLPGPCYRQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGYSAPYYSFEASTQGPFKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	404 FFPDCKPCRLTHTWQTURALGLPPFLUSCYLSRTNTPS-GTTTQSRLQFSQAGASD 469 404 FFPDCKPCRLTHTWQTURALGLPPFLUSCHPGOLGQDKRRGTTQFSQAGASD 469 470 IRDQSRNWLPGPCYRQCRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YIEATIMRPAEVGYSAPYYSFEASTQ	404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPGSEQATURES-GTTTQSRLQFSQAGASD 469 404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPQSEQATNFGDIGVQDKRRGVTQMGNTD 461 470 IRDQSRNWLPGPCYRQCRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGYSAPYYSFEASTQGPFKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIESFS 499 RGGAQTDENQAADGDPRYAPGRQHGCKTTTGETPERFTYIAHQDTGRYPAGDWIQNINF 558 556 KVMIŢDEEEIRTŢNPVATEQYGSVSTNLQRGNRQAATADVNTCKVLIPGMANDANDNING 558 566 KVMIŢDEEEIRTŢNPVATEQYGSVSTNLQRGNRQAATADVNTCKVLIPGMANDANDNING 558	404 FPFDCRPCRLTHTWQTNRALGLPPFLNSTRNTPS-GTTTQSRLQFSQAGASD 469 404 FPFDCRPCRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQQDKRRGVTQMGNTD 461 470 IRDQSRNWLPGPCYRQQRVSKTSADNNNSPYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGYSADYYSFEASTQGPPKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	230 VKGNWALDDTHVQI VTPWSLVDANAMGVWFNPGDWQLIYNTMSELHLVSFEQEIFNIVVLK 289 322 BVTQNDGTTTIANNLISTVQVFTDSEYQLPYVLGSAHQGCLPPPFPA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETLGPYPWKPTIPTPWRYY 349 368DVFWVPQYGYLTLIANGSQAVGRSSPYCLE-YFPSQMLRTGNNP-TFS 412 Db 151	262 SQ8GASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRINFKLENIOVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLIVNTWSELHLVSFEQEIFNVVLK 289 322 EVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPRA 367 290 TVSESITQPPTKVYNNDLTASLWVALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 206 TVSESITQPPTKVYNNDLTASLWVALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 368DVFWVPQYGYLTLIANGSQAVGRSSPYCLE-YFPSQMLRTGNNF-TFS 412 DD 151	172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSSRLVHLAMPESENYKRVVNNAMDKTA 229 262 SQGGGVGISTGTFNNQTEFKFLENGWVEITANSSRLVHLAMPESENYKRVVNNAMDKTA 229 262 SQGGGVGISTGTFNNGYFPRCHFSPRDWQRLINNNWGPRPRENYKRVVNNAMDKTA 229 263 OVKGNMALDDTHVQIVTPWSLVDANAMGVWFNPGDWQLIVNTMSELHLVSFEQEIFNVVLK 289 322 BVTQNDGTTTIANNLTSTVQVFTDSSVQLPYVLGSAHQGCLPPFPA	217 GADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQIS 261 172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSSRLVHLNMPESENYRKAVVNNMDKTA 229 262 SQGGSNDNHYPGYSTPWGYPDFNRFHCHFSPRDWGRLINNNWGFRPKRLNFKLFNLOVK 321 230 VKGNWALDDTHVQIVTPWSLVDANAMGVWFNPGRDWGLINNNWGFRPKRLNFKLFNLOVK 321 230 VKGNWALDDTHVQIVTPWSLVDANAMGVWFNPGBWGLIVNTMSELHLVSFEGEIFNVVLK 289 322 BVTQNDGTTTIAANLISTVQVFTDSSYQLPYVLGSAHQGCLPPFPA 367 290 TVSESATQPPTKVYNNDLIASLANVALDSNNTMPFTPAAMRSFTLGFYPWKPTIPTPWRXY 349 368DVFWVPQYGYLTLIANGSQAVGRSSPYCLE-YFPSQMLRTGNNP-TFS 412 DD 151	124 KKAGAGQVKRDNLAPMSDGAVQPDACAPRADNNE 216 124 KKAGAGQVKRDNLAPMSDGAVQPDGCAPRADNNE 216 127 GADGVGNSSGNWHCDSTWMGDRVITGRFTWALPTVNHLYKQIS 261 172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSFLVHLNMPESENYKRVVNNMDKTA 229 262 SGGSRNDNHYFGYSTPWGYPDFNRFHCHFSPRDWGRLINNNWGFPFKRINFKLFVNNJK 289 262 SGGASNDNHYFGYSTPWGYPDFNRFHCHFSPRDWGRLINNNWGFPFKRINFKLFVNVJK 289 262 SGGASNDNHYFGYSTPWGYPDFNRFHCHFSPRDWGRLINNNWGFPFKRINFKLFVNVJK 289 263 CVGNWALDDTHVQIVTPWSLVDANAWGVWFNFGAPAGCGLPPFPA 367 290 VKGNWALDDTHVQIVFTASLANDLIASLANDALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 290 TVSESATQPPTKVYNNDLIASLANDALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 266DVFWVPQYGYLTLANNGSQAVGRSSFYCLE-YFPSQMLRTGNNF-TFS 412 267 TVSESATQPPTKVYNNDLIASLANDALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 268DVFWVPQYGYLTLANNGSQAVGRSSFYCLE-YFPSQMLRTGNNF-TFS 412 270 TVSESATQPTKVYNNDLIASLANDALDSNNTWPFTPAAMRSETLGFYPWKPTIPTPWRXY 349 271 GAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG
	CY 250 PTYNN	CY 250 PTYNN	350 PGWDRTLIPSH	350 FOWDRILIPSHTGTGGTPTNIYHGTDDPDDVQFTIENSVPUHLIRTGDEPATCT 403 DD 207 PKSENYCRINHNTDD 1 1 1 1 1 1 1 1 1	350 PQW PRILIPSH	### 350 FQWDRTLIPSHTGTSGTPTNIYHGTDEDDVQFYTIENSVPUHLIRTGDEFATGT 403 ### 350 FQWDRTLIPSHTGTSGTPTNIYHGTDEDDVQFYTIENSVPUHLIRTGDEFATGT 403 ### 37 TFEBUVPFHSSYAHSGELDRLAMPLIDQYLYXLSRTNTPS-GTTTQSRLQFSQAGASD 469 ### 404 FFFDCKPCRLTHTWQTNRALGLPPFLNSLEQSGATNFGDIGVQQDKRGGTTQMGNTD 461 ### 413 YTFEBUVPFHSSYAHSGELDRLAMPLIDQYLYXLSRTNTPS-GTTTQSRLQFSQAGASD 469 ### 404 FFFDCKPCRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQQDKRGGTTQMGNTD 461 ### 413 YTFEBUVPFHSSYAHSGELDRLAMPLIDQYLYXLSRTNTPS-GTTTQSRLQFSQAGASTRNTPTQHTNPTD 461 ### 404 FFFDCKPCRLTHTWQTNRALGLPPFLNSLPQGGASTRNTPGDIGVGQDKRGGTTDMGNTD 461 ### 405 RGPCKRQCRVSKTSADNNNSEYSWAGATLAM-NOPPLYANG 498 ### 405 GCLPPFFBADVFRNTPGDFPADVANTGGTLAM-NVPPVYANG 605 ### 405 GCLPPFFBADVFRNTPGDFPADAANNSE 688 ### 405 GCLPPFFBADVFRNTPGTLAM-NVPPVYANG 605 ### 405 GCLPPFFBADVFRNTPGTAM-NTPGTLAM-NVPPVYANG 605 ### 405 GCLPPFFBADVFRNTPGTAM-NTPGTLAM-NVPPVYANG 605 ### 406 GTWDKSFDTDLKPRLHVNAPFVCQNNCPGQLFVKVAPNLTNEYDPAAANNSR 658 ### 406 GTWDKSFDTDLNNNSEYSWANG 658 ### 407 GWLRTTGTTTAM-NTPGTAM-	13	### 350 PGWDRTLIPSHTÖTSGTPTNIYHGTDPDDVQFYTIENSVPWHILRTGDEFATGT 403 ####################################	350 PGWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVPVHLLRTGDEFATGT 403	350 FQWDRTLIPSHTGTSGTPTNIXHGTDPDDVQFYIERSVPHILRTGDEFATGT 403	230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLIVNTMSELHLVSFEQEIFNVVLK 289 322 EVTQNDGTTITANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETLGFYPWKPTIFTPWRXY 349 QY 206	262 SQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFPRFRLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLIVNTWSELHLVSFEGEIFNVVLK 289 322 EVTQNDGTTTIANNLTSTVQVFTDSFYQLFYLGSAHQGCLPPFPA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETIGFYPWKPTIFTPWRXY 349 QY 206	172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSSRLVHLNMPESENYKRVVNNMDKTA 229 262 SGGASNDNHYFGYSTPWGYFDFRRFHCHFSPRDWQRLINNWGFRPKRLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLIVNTMSELHLVSFFQEIFNVVLK 289 322 BVTQNDGTTTIANNITSTVQVFTDSANQCOLPPPPPA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWKYY 349 QY 206	217 GADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKOIS 261 172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSSRLVHLNMPESENYKRVVVNNMDKTA 229 262 SQGGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIOVK 321 230 VKGNWALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLIVNTWSELHLVSFEQEIFNVVLK 289 322 BVTQNDGTTTIANNLTSTVQFPDSEYQLPYVLGSAHQGCLPPPPA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAANRSETLGFYPWKPTIFTPWRKYY 349 QV 206	124 KKAGAGQVKRDNLAPMSDGAVQPDGGQPPAAPSGLGTNTWATGSG-APWADNNE 216 124 KKAGAGQVKRDNLAPMSDGAVQPDGGQPVRNERATGSGGGGGG 171 217 GADGVGNSGGNAHCDSTWMGDRVITTSTRTWALPTYNNHLYKQIS 261 172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSFLVHLNMPESENYKRVVNNMDKTA 229 262 SQGGASNDNHYFGYSTPWGYFPFHCHFSPRDWQRLINNNWGFPFKRLNFKLFNIQVK 321 230 VKGNMALDDTHYQITTPWGVPFPRFHCHFSPRDWQLINNNWGFPFKRLNFKLFNIQVK 229 252 BVTQNDGTTTIANNLTSTVQVFPTSRAWGVWFNPGDWGLIVVTWSFEQBIFNVVLK 289 322 BVTQNDGTTTIANNLTSTVQVFPTSRAMSSETIGFYPWKFTIFTPWRYY 349 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETIGFYPWKFTIFTPWRYY 349 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETIGFYPWKFTIFTPWRYY 349 206 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETIGFYPWKFTIFTPWRYY 349
Interconnection Interconne	Interconner Interconner	Interconterner Inte	368DVENVPOYGXITLNNGSQANGRSSFYCLE-YFPSQMLRTGNNP-TES 412 350 FQMDRILILESHSFYCLE-YFPSQMLRTGNNP-TES 412 413 YPPEDDPFHSSXAHSGSLDRLMNPLIDQXLXYZSRTYTDSRLQFSQAGASD 469 404 FPPDCKPCRLTHTWGTNRALGLPPFLINSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 405 FPPDCKPCRLTHTWGTNRALGLPPFLINSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 406 FPPDCKPCRLTHTWGTNRALGLPPFLINSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 407 FPPDCKPCRLTHTWGTNRALGLPPFLINSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 408 FPPDCKPCRLTHTWGTNRALGLPPFLINSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 409 FPPDCKPCRLTHTWGTNRALGLPPFLINSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 400 GCLPPFPDAN 520 PTYNN	151 VERAADGEGOUS 1 1 1 1 1 1 1 1 1	368DVPMVPQYGYLTLNNGGGAVGRSSPYCLE-YFPSQMLFTGNNF-TES 412 350 FQWPRITIPSH	350 FQWDRTLIPRACEGAVGRS	368DVFWUPQYGYLTLANGSQAVGRSSPYCLE-YFPSQMLRTGNNF-TFS 412 350 FQWDRILIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVFVHLLATGDEFATGT 403 413 YTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPS-GTTTGSRLQFSQAGSD 469 404 FRFDCKPCRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQDDKRRGYTQMGNTD 461 470 IRDQSRNWLPGPCXRQCRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGYSAPYYSFRASTQAGPKTPIAAG 498 523 MASHKDDEEKFFPQSGVLIFGKQSEKTNVDIE	368DVFMVPQYGYLTLANGSOAVGRSSPYCLE-YPPSQMLRTGNNF-TFS 412 350 FQMDRTLIPSHTGTSGTPTNIXHGTDPDDVQFYTIENSVPVHLLRTGDEFATGT 403 413 YTFPEDDYPHSSYAHSOSLDRLMMPLIDQYLYYLSRTNTPS-GTTTQSRLQFSQAGASD 469 5	368DVFMVPQYGYLTLANGSQAVGRSSPYCLE-YFPSQMLRTGNNF-TFS 412 350 FQMDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVFVHLLRTGDEFATGT 403 413 YTFEDVPFHSSYAHSGSLDRLMNPLIDQYLYXLSRTNTPS-GTTTVGSRLQFSQAGSD 469 404 FPPDCKPCRLTHTWGTNRALGLPPFLNSLPQSEGATNFGDIGVQQDKRRGVTQMGNTD 461 406 FPPDCKPCRLTHTWGTNRALGLPPFLNSLPQSEGATNFGDIGVQQDKRRGVTQMGNTD 461 4070 IRDQSRNWLPGPCYRQCRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGSYSAPYYSFEASTQAGPKTPIAAG 498 523 MASHKDDEEKFPQSGVLIFGKQGSEKTNVDIE	368DVFMVPQYGYLTLINGSQAVGRSSPYCLE-YFPSQMLRTGDNE-TFS 412 350 FQWDRTLIPSHTGTGGTPTNIYHGTDPDDVQFYTIENSVPVHLLRTGDEFATGT 403 413 YTPEDVPFHSSYAHSQSLDRLMNPLIDQYLYZERTNTFS-GTTTQSRLQFSQAGSD 469 404 FPFDCRPCRLTHTWQTNRALGLPPFLNSLPQSEGATNFGDIGVQQDXRRGYTQMGNTD 461 470 IRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPA 522 462 YITEATIMRPAEVGYSAPYYSFEASTQ	230 VKGNMALDDTHVQIVTPWSLVDANANGVWFNPGDWQLIVNTMSELHLVSFEQEIFNVVLK 289 322 EVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHGGCIDDDDD	262 SQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLIVNTWSELHLVSFEQEIFNVVLK 289 322 BVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHGGCIDDDGN	172 GSGGVGISTGTENNQTEFKFLENGWVEITANSERLVHLAMPESENYKRVVVNNMDKTA 229 262 SGSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFPFKRLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLIVNTWSELHLVSFEQEIFNVVLK 289 322 EVTQNDGTTTIANNLISTVQVFTDSEYQLPYVLGSAHGGCIDDDDD	217 GADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQIS 261	124 KKAGAGQVKRDNLAPMSDQAVQPQQPAAPSGLGTNTWATGSG-APMADNNE 216 124 KKAGAGQVKRDNLAPMSDGAVQPDGGQPAVRNERATGSGGGGGG 171 217 GADGVGNSSGNWHCDSTWMGDRVITSTRTWALPTNNHLYKQIS 261 172 GSGGVGISTGTFNNQTEFKFLENGWVEITANSSRLVHLNMPESENYKRVVNNMDKTA 229 262 SGGSGNDNHYFGYSTPWGYPDFNRFHCHFSPRDWGRLINNNWGFRPKRLNFKLFNIQVK 321 230 VKGNMALDDTHVQIVTPWSLVDANAWGVWFNPGDWQLIVNTWSELHLVSFEQEIFNVVLK 289 322 EVTQNDGTTTLANNLTSTVQVPTDSSEYQLPVVLGSAHGGCI
ILETTONNET 38 CO CO CO CO CO CO CO C	ILRICATE 38	TETTOTT	290 TVBESTATOPETKYYNNDITASIAVALDSNNNHPFTPAAMRSETIGFYPWKPTIPTPWRYY 349 368DVFMVDOYCITINNGGOAVGRSSPYCLE-YFPSQMLRTGONE-PFS 412 350 FQMDRILIPSH	290 TVSESATOPPTKVTNINICITASIANALDSINNIMPETPAAMRSETIGFYPWKPTITE	290 TVSESSATQPPTKYXNNDLTASILANDALDSNNTHNPFTPRAMRSETIGFYPWKPTIPTPWRXY 349 368DVEWVPQYGYLTLANGGQAVGRS	290 TVESSTQPPTKVYTNIDLTASLAWALDSNNTMPFTPAAMRSETLGFYPWRYTY 349	290 TVSESATQPPTKVYNNDLTASLAVALDSNNTWPFTPAAMRSETLGFYPWKPTIPFWRYY 349 368DVFWAVYDQYGYLTLINNGSQAVGASSFYCLE-YFPSQMLRTGNNP-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDDDDVQFYTIENSVPHILARTGDBFATGT 403 413 YTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTWTPS-GTTTQSRLQSQAGAD 469 404 FFFDCKPCRLTHTWQTNRALGLPPPLNSLPQSEGATNFGDIGVQDKRRGVTQMGNTD 461 405 FFFDCKPCRLTHTWQTNRALGLPPPLNSLPQSEGATNFGDIGVQDKRRGVTQMGNTD 461 406 FFFDCKPCRLTHTWGTNRALGLPPPLNSLPQSEGATNFGDIGVQDKRRGVTQMGNTD 461 407 250 PTXNN 413 YTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTWTPS-GTTTQSRLQSGAD 469 408 MGFRPKRLN 419 TFFDCKPCRLTHTWGTNRALGLPPPLNSLPQSEGATNFGDIGVQDKRRGVTQMGNTD 461 419 FFFDCKPCRLTHTWGTNRALGLPPPLNSLPQSEGATNFGDIGVQDKRRGVTQMGNTD 461 409 RGGAQTDENQAADGDBRXAFGAGAGATADVATQGVLPGWVWQDRDVTLQG 615 450 MGFRPKRLN 451 TLLRTGDBF 452 MASHKDDBEKFFPQSGVLIFGKQGSEKTNVDIE	290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFWVPQYGQYLTLANGGGQAVGRSSPYCLE-YPPSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVGFYTIENSVPVHILRTGDEFATGT 403 413 YTFEBDVPFHSSYAHSGSLAMAPLIDQYLYYLSRTNTPS-GTTTQSRLQFSQAGASD 469 404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 405 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 406 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 407 FRPDCKPCRLTHTWQTNRALGLPPFLNSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 408 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 409 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 400 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPGSEGATNFGDIGVQDXRRGVTQMGNTD 461 401 FFPDCKPCRLTHTWQTNRALGLPPFRANTAGNTGMTNPGN	290 TVSESATQPPTKVYNNDLTASLAWALDSNNTMPFTPAAMRSETLGFYPWKPTIPTPWRYY 349 368DVFWWPQYGYLTLNNDSQAVGRSSPYCLE-YFPSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDDDDVQPYTIENSVPHILLRTGORFATGT 403 413 YTPEDVPPHSSYAHSGSLDRLWMPLIDQYLYYLSRTNTPS-GTTTQSRLQFSQAGASD 469 404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPOSCAGASD 469 405 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPOSCAGASD 469 406 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPOSCAGASD 469 407 IRDQSRNWLPGPCYRQGRVSKTSADNNNSEYSWTGATWYCHTOWGP	290 TVSESATQPPTKVTNNDLTASLAWALDSNNTMPFTPAAMRSETLGFVPWKPTIPTPWRYY 349 368DVFWVPQYGQYLTLANGSGANGRSSFYCLE-YFPSQMLRTGNNF-TFS 412 350 FQWDRTLIPSHTGTSGTPTNIYHGTDPDDVQFYTIENSVEWHLRTGDEFATGT 403 413 YTFBDVPFHSSYAHSGSLDRLWMPILDQYLYYLSRTNTPS-GTTTQSRLQFSGAGASD 469 404 FFFDCKPCRLTHTWQTNRALGLPPFLNSLPGSGAGASD 469 405 FFFDCKPCRLTHTWQTNRALGLPPFLNSLPNTPGDIGVQDKRRGVTQMGNTD 461 410 IRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATNFGDIGVQDKRRGVTQMGNTD 461 411 TREATIMRP	230 VKGNNALDDTHVQIVTPWSLVDANAWGVWFNPGDMQLIVVNTWSELHLVQFRORIFRNAN 200 QY 164	262 SQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVK 321 230 VKGNWALDDTHVQIVTPWSLVDANAWGVWFNFGDWQLIVNYMSELHILVSFFRORIFWNTK 200 QY 164	172 GSGGVGISTGTFRNQTEFKFLENGWEITANSSRLVHLAMPESENYKRVVNNMDKTA 229 262 SGGAGNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNMGFRPKRLNFKLFRINGVK 321 230 VKGNWALDDTHVQIVTPWSLVDANAMGVWFNPGDWQLIVNTMSELHIVSFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	217 GADGVGNSSGNWHCDSTWMGDRVITTSRTWALPTYNNHLYKQIS 261	
PPPPA	PPPPA	PPPPA	322 SUTONDGITITANNIJESTVQVPTDSEYOLEPYUGSAHQCCLPPPPA	322 EVTQNDGTTITANNLISTVQVFTDSEYOLPYUGSAHGCCL367 290 TGSESATOPPIXVINDLIANILISTVQVFTDSEYOLPYUGSAHGCCL367 290 TGSESATOPPIXVINDLIANILISTVGVFTDSEYOLPYUGSAHGCCL	322 BYTON DOTITIANNLISTYQVPTDSEYOLPYVLGSAHGCCL PPPPA 367 290 TGESTATOPTEXANLISTYQVPTDSEYOLPYVLGSAHGCCL PPPPA 367 290 TGESTATOPTEXANLISTYQVPTDSEXTALDSTANRETTGPTPAMRSETTGPTPMRYY 349 368 DVPMYPQYGYTLINNGSQAVGRS	132 EVTQNDGTTIANNLISTYQQVETDSEXQLPYULGSAHQGCLPPPPA 367	322 SUTQNDOTITIANNLITSTVQVFTDSEYQLPYUGSAHQGCLPPPPA 367 369 151 1 1 1 1 1 1 1 1	322 EVTONDGTTTIANNLTSTVQVPTDSEYQLPYVLGSAHQGCLPPPPA 367 290 TVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTDAAMRSTLGFYPWKPTIPTDWRYY 349 368DVPWVPQYGYLTLIANGSQAVGRSSPYCLE-YPSGMLRTGNNP-TFS 412 350 FQWDRTLIPSH	322 EVTQNDGTTTIANNILTSTVQVFTDSEXQLPYVLGSAHQGCLPPPPPA	322 EVTONDGTTTIANNITISTVQVFTDSEYQLPYULGSAHQGCLPPPPA 367 290 TVSESATQPPTKVYNNDLTASLAVALDSNNTMPFTPAAMRSETLGFYPWRPT1PTPWRYY 349 368DVFWVPQYGYLTLNNGSQAVGRSSPYCLE-YFPSQMLATGDNNY-TFS 412 350 FQWDRTLIPSHTGTGGTPTNTYHGTDPDDVQFYTIENSVPVHLLRTGDEFATGT 403 413 YTFEDVPFHSSTAHSGSLANAPLIDQYLYYLSRTNTPS-GTTTTQSRLQFSQAGASD 469 404 FFPDCKPCRLTHTWQTNRALGLPPFLNSLPGSGATNFGDIGVQQDXGRGVTQMGNTD 461 470 IRDQSRNWLPGPCYRQQRVSXTSADNNNSEYSWTGATKYHLNGRDSLVNPGPP		262 SQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWORLINNNMGFRPKFRINFYTANF 229 DD 61	172 GSGGGGTSTGTFNNQTEFKFLENGWVEITANSSRLVHIAMPESENYKRVVVNNMDKTA 229 262 SQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWORLINNNMGPRDKFLANGT 229 Db 61	217 GADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQIS 261	124 KKAGAGOVKRDNLAPMSDGAVQPBQFLGQPFAAPSGLGTNTWATGSG-APMADNNE 216 124 KKAGAGOVKRDNLAPMSDGAVQPDGGQPAVRNERATGSGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG

```
atches 294; Indels 218; Gaps 38;
                        EEPVKTAPGKKRPVEHSPVEPDSSSGTGKAG- 163
                                                                                                                         QT-GDADSVPDPQPLGQPPAAPSGLGTNTMAT 205
                                                                                                 SGNWHCDS--TWMGD---RVITTSTRTWAL-- 249
                                                                                                                                                                                           :|:: ::||
|TGSYDNQTHYRFLGDGWVBITALATRLVHLNM 206
                                                                                                                                                                                                                                               :
| | | | | | | | | HQIWTPWSLVDANAWGVWLQPSDWQYICNTM 266
                                                                                                                                                                                                                           YFGYSTPWGYFDFNRFHCHFSPRDWORLINNN 303
                                                                                                                                                                                                                                                                           'IA---NNLTSTVQVFTDSEYQLPYVLGSAHQ 359
                                                                                                                                                                                                                                                                                           ILNN-----GSQAVGRSSFYCLEYFPS 400
                                                                                                                                                                                                                                                                                                                                            YENQEGTIEHNVMGTPKGMNSQFFTIENTQQ 386
                                                                                                                                                                                                                                                                                                                                                                             QSLDRLMN--PLIDQYLYYLSRTNTPSGTTT 456
                                                                                                                                                                                                                                                                                                                                                                                                WOTNRQLGQPPLLSTF----PEADTDAGTLT 440
                                                                                                                                                                                                                                                                                                                                                                                                                            VNPGPAMASHKDDEEKF------PPQSG 538
                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAQVGFCQPHNDFEASRAGPFAAPKVPADVT 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INPVATEQYGSVSTNLQRGNRQAATADVNTQ 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | : : | |:
QNDI---HFSNV------FNSY 581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HPSPLMGGFGLKHPP-----PQILIKNTP 652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGQVSVEIEWELQKENSKRWNP--EIQYTS 702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|TFFWKGKLTMRAKLRANTTWNPVYQVSVED 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          n-1989 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nization of canine parvovirus.
MID:2824850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRN 734
||
|RN 716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Kesidues: 1-748 <REE>
```

```
101
                                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       511
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        рр
                                                                                                                                                                                HDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQAKKRVLEPL-GLVE 133
                                                                                                                                                                                              EPVKTAPGKKRPVEHSPVEPDSSSGTGK----AGQQPARKRLNFGQTGDADSVPDPQPL 188
                                                                                                                                                                                                                                                                              GOPPAAPSGLGTNTMATGSG-APMADNNEGADGVGNSSGNWH-----CDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                            241 TTSTRTWALPTYNNHLYKQI-----SSQSGASNDNHYFGYSTPWGYFDFNRFHCHFS 292
                                                                                                                                                                                                                                                                                                                                              PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQN---DGTTTIANNLTSTVQVFTDSEYQ 349
                                                                                                                                                                                                                                                                                                                                                                                            LPYVLGSAHOGCL-----PPFPA-----DVFMVPQYGYLTLNNGSQAVGRS---- 390
                                                                                                                                                                                                                                                                                                                                                                                                                                            :|: : HETPAAMKSETLGFYPWKFTIPTPWRYYFQWDRTLIPSH-----TGTSGTPTNIYHGT 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HPSTSRPTK--PTKRSKPPPHIFINLAKKKKAGAGOV---KRDNLAPMSDGAVQPDG--- 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----SFYCLE-YFPSQMLRTGNNFTFSYTFEDV------PFHSSYAH 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---LMNPLIDQYL--YYLSRTNTPSGTTTQ 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   461 SEGATNFGDIGVQQDKRRGVTQMGNTNYITEATIMRPAEVGÝSAPÝYSFEASTQGPFKŤP 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLV 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --IAAGRGGAQTYENQAADGDPRYAFGRQHGQKTTT-----TGETPERF---- 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          518 NPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYG 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----TYIAHQDTGR--YP------GGDWIQNINF-NLPVTNDNVLLPTDPIG----G 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               603 KTGINY-----TNIFNTYGPLTALN-NVPPVYPNGQIWDKEFDTD-----LKPRL 646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GLKHP-----PPQILIKNTPVPANPSTTFSAAKFASFITQYSTGQVSVEIEWELQKEN 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        : | | | : : : : : : : | | | : : | 647 HVNAPFVCQNNCPGQLFVKVAPNLTNEYDPDASANMSRIVT-YSDFWWKGKLVFKAKLRA 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGF 637
                                                                                                                                                        62
                                                                                                                                                 30 PPPKPAERHK-----DDSR-----GLVLPGYKYLGPFNGLDKGEPVNEADAAALE
                                                                                11.1%; Score 442; DB 1; Length 748; llarity 24.2%; Pred. No. 5e-21; Conservative 99; Mismatches 306; Indels 2
                    A;Introns: 26/3
C;Superfamily: parvovirus coat protein
C;Keywords: coat protein
F;165-748/Product: coat protein VP2 #status predicted <VP2>
Cross-references: UNIPROT:P12930; EMBL:M19296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SKRWNPEIQYTSNYNKSVNVD 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SHTWNP-IQ-----QMSINVD 720
                                                                               Query Match
Best Local Similarity
Matches 194; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SQSLDR--
                                                                                                                                                                                                                                                                                                                                                                                                                            350
                                                                                                                                                                               75
                                                                                                                                                                                                                                                      123
                                                                                                                                                                                                                                                                              189
                                                                                                                                                                                                                                                                                                    175
                                                                                                                                                                                                                                                                                                                                                                              293
                                                                                                                                                                                                                                                                                                                                                                                                      287
                                                                                                                                                                                                                                                                                                                                                                                                                                                      347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ġ
                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            음 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 & 8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                              ò
                                                                                                                                                                                                 g
                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                             ያ 4
                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                          8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
90 YLKYNHADAEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHS 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SO TFYFSAADEKFIKETEHAKDYGGKIGHYFFRAKRAFAPKLSETDSPTTS---QQPEVRRS 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         150 PVEPDSSSGTGK-----AGOOPARKRINFGOTGDADSVPDPOPLGOPPAAPSGLG 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : ||:| :|| :|| :|| || 219 PEHETYKRIHVLNSESGSAGQMVQDDAHTQMVTPWSLIDANAWGVWFNPADWQLISNNMT 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                568 TNP-----VATEQYG-SVSTNLQRGNRQAATAD--------VNTQGVLPGMVW 606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540 PNPOSKCGRAPKOOPNOOAPLNLENTINNGTLLPSDPIGGKSNMHFMNTLNTYGPLTALN- 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EINLVSFEQAIFNVVLKTITESATSPPTKIYNNDLTASLMVALDTNNTLPYTPAAPRSET 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LGFYPWLPTKPTQYRYYLSCIRNLNPPTYTGQSQPNNRLNTNRLHSDIMFYTIENAVPIH 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   252 YNNHLYKQI---SSQSGAS----NDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNW 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GFRPKRLNFKLFNIQVKEVTQN--DGTTTIANN-LTSTVQVFTDSEYQLPYVLGSAHQGC 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPPFPADVFMVPQYGYL-----TLNNGSQAVGRSS-----FYCLE-YFPSQ 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -AKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTN--GV- 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               49
C; Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 09-Jul-2004 C; Accession: B33302 R;Ranz, A.I.; Manclus, J.J.; Diaz-Aroca, E.; Casal, J.I. Rs. A.I.; Manclus, J.J.; Diaz-Aroca, E.; Casal, J.I. A.J. Cen. Virol. 70, 2541-2553, 1984 sequence and genome organization. A; Title: Porcine parvovirus: DNA sequence and genome organization. A; Reference number: A33302; MUID:90010964; PMID:2794971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | : | | | | | | | PRKHPGSKPPGKRPAPRHIFINLAKKKAKGTSNJINSNSMSENVEQHNPI------NAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELSATGNESGGGGGGGGGGGGGGVGVSTGSFNNQTEFQYLGEGLVRITAHASRLIHLNM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NGRDSLVNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMIT---DEEEIRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30 PPPKPAERHKDDSRGLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 PPAKRA-----RGTI-----LGPGNSLDQGEPTNPSDAAKEHDEAYDKYIKSGKNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTMATGS---GAPMADNNEGADGVGNSSGNWH--CDSTWMGD---RVITTSTRTWALPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTGATKYHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  607 ODRDVYLQGPIWAKIPHTD--GHFHPSPLMGGFGLK-HPPPQILIKNTPVPANPSTTFSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MLRIGNNF-TFSYTFEDVPFHSSYAHSQSLDR-----LMNPLI--DQYLYYLSRTNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NGGPFLTPIVPTADTQYNDDE------PNGAIRFTMDYQHGHLTTSSQELERYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                             A,Introns: 10/1
C,Superfamily: parvovirus coat protein
C,Keywords: coat protein
F,145-723/Product: coat protein VP2 #status predicted <VP2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 10.9%; Score 434.5; DB 1;
Best Local Similarity 25.1%; Pred. No. 1.5e-20;
Matches 199; Conservative 107; Mismatches 318;
                                                                                                                                                   A,Accession: B33302
A,Accession: B33302
A,Molecule type: DNA
A,Residues: 1-723 <RAN>
A,COSS references: UNIPROT:P18546; EMBL:D00623
C,Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
```

----YSE--PRPI 726

720

coat protein VP1 - porcine parvovirus N;Contains: coat protein VP2 C;Species: porcine parvovirus

us-10-038-972a-13.rpr

599 GVLPGMVWQDRDVXLQGPIWAKIPHTBGHPHPS	Db 605 GPLTALN-NVPPVYPNGQIWDKEFDTDLKPRLHVNAPFVCQNNCPGQLFVKVA 656 Qy 652 PVPANPSTTFSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPELQYTSNYNKSVNVD 711 Db 657 PNLTNEYDPDASANMSRIVT-YSDFWWKGKLVFKAKLRASHTWNP-IQQMSINVD 709		R.Rhode III, S.L. J. Virol. 54, 630-633, 1985 A.Title: Nucleotide sequence of the coat protein gene of canine parvovirus. A.Reference number: A03702, MUID:85185696; PMID:3989914 A.Rocesalan: A037702 A.Moleoule type: DNA A.Residues: 1-722 aRHO>	Aicross-references: UNIPROT:P04863; EMBL:M10989 C;Genetics: 11/1 C;Genetics: 11/1 C;Superfamily: parvovirus coat protein F:134-722/brodint:	Query Match Query Match 10.3%; Score 411, DB 1; Length 722; Best Local Similarity 24.3%; Pred. No. 5.1e-19; Matches 188; Conservative 89; Mismatches 324; Indels 172; Gaps 32;	PPPKPAERHKDDSRGLVLPGYKYLGPPNGLDKGEPVNEADAALEHDKAYDRQLDSGDNP 8	149 SPVEPDSSSGTICK AGOODBLED WAYNOUTED - GLVEEP WTAP GKKRPVEH		SRLVHLNMP		Db 272 SELHLVSFEQEIFNVVLKTVSESATQPPTKVYNNDLTASLMVALDSNNTMPFTPAAMRSE 331 Qy 361 CLPPFPAVPMVPQYGYLTLNNGSQAVGRSSFPYTR 396	YHGTDPDDVQFYTIE			
Db 710 MFPEYSQLIPRKL 722	RESULT 13 VCPVCD Coat protein VP1 - canine parvovirus (strain CPV-d) N.Contains: coat protein VP2 C.Spteis: canine parvovirus, CPV C.Date: 31-Mar-1000 #.com.co.	C,Accession: A31163 R;Parrish, C.R.; Aquadro, C.F.; Carmichael, L.E. Virology 166, 293-307, 1988 A;Title: Canine host range and a specific epitope map along with variant sequences in the A;Reference number: A31163; MUID:89020796; PMID:3176341 A;Rocession: A31163; MUID:89020796; PMID:3176341 A;Rocession: DNA	And the structures: 1-737 < PAR> And the structures: 1-737 < PAR> Accessored references: UNIPROT: P17455; EMBL: M23255; NID: 9333467; PIDN: AAA47158.1; PID: 93334 A; Introns: 26/3 C; Superfamily: parvovirus coat protein C; Superfamily: parvovirus coat protein F; 584-737/Product: coat protein	Length 737; Indels 171; Gaps		DD 63 GKNFYLYFSPADQRFIDGTKDAKDWĠĠKIĠHYFFRAKKAIAPVLTDTPBHPSTSRPTK 120 QY 145 PVEHSPVEPDSSSGTGKAGQQPARKKLNFGQTGDADSVPDPQPLGQPPAAPSGLG 199 DD 121 PTKRSKPDPHTETNT NEVEVEN	TNTMATGSG - APMADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPT	OY 252 YNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWGRLINNN 303 227 PESENYRRVVVNNMDKTAVNGNMALDDIHAQIVTPWSIVDANAWGYWPNDFNDM 304	LGSAHQG	-SFYCLE		FKYHLNG - rQ	TYIAH	advnto 	CALIGRAYTNIENTY 604

Db 510 RENYG	
Oy 556	Query Match 9.9%; Score 397; DB 1; Length 722; Best Local Similarity 23.7%; Pred. No. 4.2=18; Indels 168; Gaps 37; Matches 187; Conservative 110; Mismatches 225; Indels 168; Gaps 37; O DPPKPARENCATATIVE DESCRIPTION DESCR

THIS PAGE BLANK (USPTO)

```
May 19, 2005, 13:33:06 ; Search time 139 Seconds (without alignments) 1768.799 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MAADGYLPDWLEDTLSEGIR......TNGVYSEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Published Applications AA:*

1: /cgn2_6/ptodata/2/pubpaa/USO7_PUBCOMB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB_pep:*

3: /cgn2_6/ptodata/2/pubpaa/USO6_PUBCOMB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/USO6_PUBCOMB.pep:*

5: /cgn2_6/ptodata/2/pubpaa/USO6_PUBCOMB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/USO8_NEW_PUB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/USO8_NEW_PUB.pep:*

8: /cgn2_6/ptodata/2/pubpaa/USO8_PUBCOMB.pep:*

9: /cgn2_6/ptodata/2/pubpaa/USO8_PUBCOMB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/USO8_PUBCOMB.pep:*

11: /cgn2_6/ptodata/2/pubpaa/USO9_PUBCOMB.pep:*

12: /cgn2_6/ptodata/2/pubpaa/USO9_PUBCOMB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/USO9_PUBCOMB.pep:*

14: /cgn2_6/ptodata/2/pubpaa/USO9_PUBCOMB.pep:*

15: /cgn2_6/ptodata/2/pubpaa/USO0_PUBCOMB.pep:*

16: /cgn2_6/ptodata/2/pubpaa/USO0_PUBCOMB.pep:*

17: /cgn2_6/ptodata/2/pubpaa/USO0_PUBCOMB.pep:*

18: /cgn2_6/ptodata/2/pubpaa/USO0_PUBCOMB.pep:*

17: /cgn2_6/ptodata/2/pubpaa/USO0_PUBCOMB.pep:*

18: /cgn2_6/ptodata/2/pubpaa/USO0_PUBCOMB.pep:*

19: /cgn2_6/ptodata/2/pubpaa/USO0_PUBCOMB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/USO0_PUBCOMB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/USO0_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/USO0_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/USO0_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/USO0_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/USO0_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/USO0_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1434725
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1434725 seqs, 334507595 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                              - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                            US-10-038-972A-13
3994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                          OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                     Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 13, Appl	Sequence 1, Appli	Sequence 70, Appl	Sequence 4, Appli		Ħ	15	Sequence 5, Appli	13,	Sequence 19, Appl	Sequence 7, Appli	_	
ΩΙ	US-10-038-972A-13	US-10-293-478-1	US-10-291-583-70	US-10-423-704A-4	US-10-496-799-4	US-10-880-297-11	US-10-880-297-15	US-10-880-297-5	US-10-880-297-13	US-10-880-297-19	US-10-880-297-7	US-10-880-297-9	US-10-880-297-31
	13	14	14	15	17	17		17	11	17	17	17	17
Length	735	735	735	735	735	735	735	733	735	735	735	735	735
* Query Match Length DB	100.0	100.0	100.0	100.0	100.0	6.66	8.66	99.7	7.66	7.66	7.66	9.66	9.66
Score	3994	3994	3994	3994	3994	3989	3985	3984	3984	3984	3983	3980	3980
Result No.	-	7	۳.	4	2	9	7	80	6	10	11	12	13

Appl Appl Appl Appl Appl Appl Appl Appl
13
sounnbes sediment es estambes es connues es estambes es es estambes es es estambes es estambes es estambes es esta
US-10-880-297-25 US-10-880-297-27 US-10-880-297-17 US-10-880-297-41 US-10-880-297-41 US-10-880-297-41 US-10-880-297-21 US-10-880-297-21 US-10-880-297-37 US-10-880-297-37 US-10-880-297-37 US-10-891-881-67 US-10-291-583-67 US-10-291-583-68 US-10-291-583-68 US-10-291-583-68 US-10-291-583-91 US-10-291-583-91 US-10-291-583-91 US-10-291-583-94 US-10-291-583-94 US-10-291-583-94 US-10-291-583-94 US-10-291-583-94 US-10-291-583-85 US-10-291-583-85 US-10-291-583-85 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-291-583-87 US-10-696-261-33
77777777777777777777777777777777777777
7
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
$\begin{array}{c} 3363\\ 3462\\$
11111111111111111111111111111111111111

ALIGNMENTS

RESULT 1
US-10-038-972A-13
Sequence 13, Application US/10038972A
Sequence 13, Application US/10038972A
Sequence 13, Application No. US20020192823A1
GENERAL INFORMATION:
APPLICANT: J. Bartlett
TITLE OF INVENTION: AAV UECTORS AND METHODS
FILE REFRENCE: 28335/36996US
CURRENT APPLICATION NUMBER: US/10/038,972A
CURRENT APPLICATION NUMBER: US/00/260,124
PRIOR APPLICATION NUMBER: US 60/260,124
PRIOR APPLICATION NUMBER: US 60/260,124
PRIOR FILING DATE: 2001-01-05
NUMBER OF SEQ ID NOS: 18
SEQ ID NO 13
SEQ ID NO 13
SEQ ID NO 13
TYPE: PRT
CORGANISM: adeno-associated virus 2 VP1 caspid protien
US-10-038-972A-13

Query Match
100.0%; Score 3994; DB 13; Length 735;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 735; Conservative 0; Mismatches 0; Indels 0; Gaps

ö

	1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD 60
KGEP	61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
KGEPVI	61 KGEPVNEADAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
AKKRVI	121 AKKRULEPLGLUEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
AKKRVL	121 AKKRVLEPLGLVEEFVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180

```
Sequence 1, Application US/10293478

Sequence 1, Application US/10293478

Publication No. US20030078411A1

GENERAL INFORMATION.

APPLICANT: PATEL, SALIL D.

APPLICANT: MCARTHUR, JAMES G.

ITILE REPERENCE: 39672

CURRENT APPLICATION NUMBER: US/10/293,478

CURRENT FILING DATE: 2002-11-14

PRIOR PAPLICATION NUMBER: US/09/321,589

PRIOR FILING DATE: 1999-05-28

NUMBER OF SEQ ID NOS: 1

SEQ ID NO 1

SEQ ID NO 1

LENGTH: 735
                                                                                                                                             301 NNNWGFRPKKLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                     420
                                                                                                                                                                                                                                         HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                              PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL 540
                                                                                                                                                                                                                                                                                                                         IFGKGGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV 600
                                                                                                                                                                                                                                                                                                                                                                               LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                       LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                    181 SVPDPQPLGQPFAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                         TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                            NNNWGFRPKRINFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                  CLPPFPADVFMVPQYGYLTLINGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRPARHKDDSRGLVLPGYRYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 14; Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 3994;
100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT ORGANISM: Adeno-associated virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.0
Matches 735; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-293-478-1
                                                                                                                    301
                                                          241
                                                                                                                                                                                361
                                                                                                                                                                                                             361
                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                    ૢ૽ૢૢ૽ૢ૽
                                                         ò
                                                                                    셤
                                                                                                                                            ä
                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                    ያ ያ
                                                                                                                                                                             ò
                                                                                                                                                                                                      g
                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                       쉱
                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
```

```
APPLICANT: Wilson, James M.
APPLICANT: Wilson, James M.
APPLICANT: Wilson, James M.
APPLICANT: Milson, James M.
APPLICANT: Milson, James M.
APPLICANT: Milson, James M.
TITLE OF INVENTION: A Method of Detecting and/or Identifying Adeno-Associated Virus (8)
TITLE OF INVENTION: Sequences and Isolating No. US20030138772A1el Sequences Identifie
FILE REPERENCE: UPN-02735USA
CURRENT APPLICATION NUMBER: US 60/350,607
PRIOR APPLICATION NUMBER: US 60/341,117
PRIOR PLING DATE: 2001-12-17
PRIOR PLING DATE: 2001-12-17
PRIOR PLING DATE: 2002-05-01
PRIOR APPLICATION NUMBER: US 60/377,066
PRIOR APPLICATION NUMBER: US 60/377,066
PRIOR APPLICATION NUMBER: US 60/377,066
PRIOR APPLICATION NUMBER: US 60/377,066
PRIOR APPLICATION NUMBER: US 60/377,066
PRIOR APPLICATION NUMBER: US 60/377,066
PRIOR APPLICATION NUMBER: US 60/386,675
PRIOR PLING DATE: 2002-05-05
SOFTWARE PLANGER: PALENTIN VERSION 3.1
SEQ ID NO 70
LENGTH: 735
                                                                                                                                                     300
                                                                                                                                                                     241 TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661 FSAAKPASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                     AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                        SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                       NNNWGFR PKRINFKLFNI QVKEVTQNDGTTTI ANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                PCYRQORVSKTSADNINISEYSWTGATKYHLINGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLBYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                         CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                         HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           I FGKQGSEKTINVDI EKVMI TDEEI RITINPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                       SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PCYROORVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661 FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: capsid protein of AAV serotype, clone AAV2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 3
US-10-291-583-70
; Sequence 70, Application US/10291583
; Publication No. US20030138772A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
121
                                   121
                                                                       181
                                                                                                          181
                                                                                                                                                241
                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                  g
                         ద
                                                                   ò
                                                                                                                                              à
                                                                                                                                                                           셤
                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
```

셤 ò a Š 임 ઠે 셤 8 8 8

g

8 8

셤 ò qq ઠે g ò 8 ò 셤 ò

ઠે

```
180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSYAHSQSLDRIMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NINIWGFR PKRLINFKLFNI QVKEVTQNDGTTTI ANNLTSTVQVFTDSEYQL PYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLPPPPADVEMVPQYGYLTLANGSQAVGRSSEYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPPFPADVEMVPQYGYLTLINGSQAVGRSSFYCLEXFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQGSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      I FGKQGSEKTNVDI EKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                735;
                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                15;
                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                            100.0%; Score 3994;
100.0%; Pred. No. 0;
ative 0; Mismatches
PRIOR PILING DATE: 2001-12-17 V-
PRIOR APPLICATION NUMBER: US 60/377,133
PRIOR PILING DATE: 2002-05-01
PRIOR APPLICATION NUMBER: US 60/386,122
PRIOR FILING DATE: 2002-06-05
PRIOR APPLICATION NUMBER: PCT/US02/33630
PRIOR FILING DATE: 2002-11-12
NUMBER OF SEQ ID NOS: 8
SOFTHARE: PATCHIN VETBION 3.2
                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: adeno-associated virus serotype
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 100.
Best Local Similarity 100.
Matches 735; Conservative
                                                                                                                                                                                                                                                                                  US-10-423-704A-4
                                                                                                                                                                                                                    LENGTH: 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 4, Application US/10423704A

Publication No. US20030228282A1

GENERAL INFORMATION:

GENERAL TOWN

APPLICANT: Wilson, James M.

APPLICANT: Milson, James 
                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NNNWGFRFKELNFKLFNIQVXEVTQNDGTTTIANNLTSTVQVFTDSEYQLFYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                  KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                        AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGOOPARKRLNFGOTGDAD 180
                                                                                                                                                                                                                                                                                                                              AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRINFGQTGDAD 180
                                                                                                                                    9
                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAADGYLPDWLEDTLSEGIRQWWXLKPGPPPFKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLPPFPADVFWVPQYGYLTLANGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISTRIWAL PIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NNNWGFRPKRLNFKLFN1QVKEVTQNDGTTT1ANNLTSTVQVFTDSEYQLPYVLGSAHOG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          I FGKOGSEKTNVDI EKVMI TDEEEI RITINPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPPQILIKNTPVPANPSTT
                                                                                          Gaps
                                                                                          ö
                                                735;
                                                Length
                                                                                          Indels
                                                DB 14;
                                                                                          ö
                                              ; Score 3994; [; Pred. No. 0; 0; Mismatches
                                                100.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEPRPIGTRYLTRNL 735
                                 Query Match
Best Local Similarity 100.0
      US-10-291-583-70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 4
US-10-423-704A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                        181
```

```
720
         FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQBRLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 AKKRVLEPIGLYBEPVKTAPGKKRPVBHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLPPFPADVFWVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541 IPGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV 600
                         661 FSAAKPASFITQYSTGQVSVEIEWELQKENSKRWNPELQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SVPDPQPLGQPPAAPSGLGTNTWATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTSTRTWALPTYNNHLYKQISSQSGASNDNHYPGYSTPWQYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NNINWGFR PKRLINFKL FNI QVKEVTQNDGTTTI ANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSSYAHSQSIDRLMNPLIDQYLYYLGRINTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCYROORVSKTSADNINSEYSWIGATKYHLINGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 17; Length 735;
                                                                                                                                                                                         APPLICANT: SCHEFER, DAVID V.
APPLICANT: SCHEFER, BRIAN
APPLICANT: KASPAR, BRIAN
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRIONS
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRIONS
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRIONS
TILE REPERRENCE: BERRA-024
CURRENT FILING DATE: 2004-06-28
PRIOR APPLICATION NUMBER: 60/484,111
PRIOR FILING DATE: 2003-66-30
NUMBER OF SEQ ID NOS: 41
SOUTHWER OF SEQ ID NOS: 41
SOUTHWER PRIOR ERIES 2003-66-30
SEQ ID NO 1:
LENGTH: 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
99.9%; Score 3989; Di
Best Local Similarity 99.9%; Pred. No. 0;
Matches 734; Conservative 0; Mismatches
                                                                                                                                                     Sequence 11, Application US/10880297
Publication No. US20050053922A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: adeno-associated virus-2
US-10-880-297-11
                                                                 735
                                                                              SEPRPIGTRYLTRNL
                                                                                                                           RESULT 6
US-10-880-297-11
         199
                                                             721
                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                               셤
                                                                                  셤
       à
                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
Sequence 4, Application US/10496799;
Publication No. US20050014262A1
GENERAL INFORMATION:
APPLICANT: The Trustees of The University of Pennsylvania
APPLICANT: The Trustees of The University of Pennsylvania
APPLICANT: Milson, James M.
APPLICANT: Alvira, Mauricio
TITILE OF INVENTION: Same, and Uses Therefor
TITILE OF INVENTION: Same, and Uses Therefor
TITILE OF INVENTION: Adeno-Associated Virus (AAV) Serotype 9 Sequences, Vectors Contai
FILE REFERENCE: UPN-02734FCT
CURRENT FILING DATE: 2004-06-08
PRIOR REDITATION NUMBER: US 60/341,150
PRIOR APPLICATION NUMBER: US 60/341,150
PRIOR PILING DATE: 2002-06-05
NUMBER OF SEQ ID NOS: 7
SOFTWARE: Patentin version 3.1
FEMALE.
                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                              KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFGERLKEDTSFCGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                               121 AKKRVLEPIGLVEBPVKTAPGKKRPVEHSPVEPDSSSGTGKAGOOPARKRLAVFGOTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SVPDPOPLGOPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTSTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NNNWGFRPKRINFKLFRIQVKEVTQNDGTTTIANNLTSTVQVFTDSBYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTJANNLTSTVQVFTDSEXQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLPPFPADVEMVPQYGYLTILNNGSQAVGRSSFYCLEYFPSQMLRTCNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MAADGYLPDWLEDTLSEGIRQMWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQPSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCYROGRUSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IFGKOGSEKTNVDIEKVMITDBEEIRTTNPVATEQYGSVSTNIGRGAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                           ;
                                                                                                                                                                                                                                                                                                                               DB 17; Length 735;
                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                         100.0%; Score 3994;
100.0%; Pred. No. 0;
cive 0; Mismatches
                                                                                                                                                                                                                                                                  TYPE: PRT i ORGANISM: adeno-associated virus serotype 2 US-10-496-799-4
                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.0
Matches 735; Conservative
                                                                                                                                                                                                                                                         735
                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   501
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               음
```

ઠે 셤 ò g à g ò g ò 쉱

ô

Ŋ

600 600 9 999

```
FSAAKFASFIIQYSTGOVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
      HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NNNWGERPKRINFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                      PCYRQQRVSKTSGDNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                       IFGKOGSEKTNVDIEKVMITDEEEIRTTNPVATEOYGSVSTNLORGNROAATADVNTOGV
                                                                                                                        541 IFGKQGSEKTINVDIEKVMITDEEEIRTTINPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                       LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                          LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SVPDPOPLGOPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTSTRTWALPTYNNHLYKQ1SSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL1
                                        PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 17; Length 733;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: SCHEFER, DAVID V.
APPLICANT: SCHEFER, DRIAN
APPLICANT: KASPAR, BRIAN
APPLICANT: MAHESTRI, NARENDRA
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRIONS
TITLE OF INVENTION: AND METHODS OF USE THEREOF
FILE REFERENCE: BERK-024
CURRENT APPLICATION NUMBER: US/10/880, 297
CURRENT FILING DATE: 2003-06-28
PRIOR FILING DATE: 2003-06-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
99.7%; Score 3984; D
Best Local Similarity 100.0%; Pred. No. 0;
Matches 733; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 41
SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ) ORGANISM: adeno-associated virus-2
US-10-880-297-5
                                                                                                                                                                                                                                                                                                                                                                                                          US-10-880-297-5; Sequence 5, Application US/10880297; Publication No. US2050053922A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                         SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                            SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 5
LENGTH: 733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
      421
                                                                                                     541
                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                     481
                                                                                                                                                                       601
                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                      481
                                    à
                                                             염
                                                                                            ò
                                                                                                                                 g
                                                                                                                                                                    ò
                                                                                                                                                                                                셤
                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4.80
                                                      99
                                                                                   9
                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                   FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NINWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSSYAHSOSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                  LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRFPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SVPDPOPLGOPPAAPSGLGTINTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLPPFPADVFWVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 3985; DB 17; Length 735; Pred. No. 0; 0; Mismatches 2; Indels 0
                                                                                                                                                                                                                                                                                                                                                 APPLICANT: SCHAFFE, DAVID V.
APPLICANT: KASPAR, BRIAN
APPLICANT: KASPAR, BRIAN
APPLICANT: KASPAR, BRIAN
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRIONS
TITLE OF INVENTION: MUTANT ADENO-SE
FILE REPRENCE: BERK-024
CURRENT APPLICATION NUMBER: US/10/880,297
CURRENT FILING DATE: 2004-06-28
PRIOR PILING DATE: 2003-06-30
PRIOR FILING DATE: 2003-06-30
NUMBER OF SEQ ID NOS: 41
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 15
                                                                                                                                                                                                                                                                                    US-10-880-297-15
; Sequence 15, Application US/10880297
; Publication No. US20050053922A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: PRT
; ORGANISM: adeno-associated virus-2
US-10-880-297-15
                                                                                                                                                                                                       Query Match
Best Local Similarity 99.7%;
Matches 733; Conservative (
                                                                                                                                                                                   SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 735
                                                  601
                                                                                                                     661
                                                                                                                                                    661
                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ,
DD
                                                                           g
                                                                                                               ઠે
                                                                                                                                               a
                                                                                                                                                                                   ò
                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ਰ.
                   음
                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g. 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   엄
```

ö

9 9 180

240

540

099

```
241 TTSTRTWALPTYNNHLYKQISSQSGABNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
        TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSIPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                        301 NNNWGERPKRLNFKLENIQVKEVTQNDGTTTANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                      CLPPFPADVEMVPQYGYLTLANGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                       480
                                                                                                                                                                                           480
                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                      NNNWGFR.PKRI.NFKI.FNI.QVKEVTQNDGTTTI.ANNLTSTVQVFTDSEYQI.PYVI.GSAHQG
                                                                                                                                                     HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                    PCYROGRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                      541 IFGROGSEKTINVDIEKVMITDEEEIRTTINPVATEGYGSVSTINLGRGNRGAATADVNTOGV
                                                                                                                                                                                                                                                                                                       601 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                    FSAAKPASFITQYSTGQVSVBIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                          61 KGEPVNEADAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 19, Application US/10880297
Sequence 19, Application US/10880297
FULLICATION NO. US20050053922A1
GENERAL INFORMATION:
APPLICANT: SCHAPFER, DAVID V.
APPLICANT: MARSTRI, MARRENDRA
TITLE OF INVENTION: MITHAN AND METHODS OF USE THEREOF
TITLE OF INVENTION: MATHODS OF USE THEREOF
CURRENT PILING DATE: 2004-06-28
FILE REFERENCE: BERK-024
CURRENT PILING DATE: 2003-06-30
NUMBER OF SEQ ID NOS: 41
NUMBER OF SEQ ID NOS: 41
SEQ ID NO 19
SEQ ID NO 19
LENGTH: 735
LENGTH: 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
99.7%; Score 3984; DF
Best Local Similarity 99.6%; Pred. No. 0;
Matches 732; Conservative 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: adeno-associated virus-2
                                                                                                                                                                                                                                                                                                                                                                                                      721 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                          721 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
US-10-880-297-19
        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-880-297-19
                                                      301
                                                                                                        361
                                                                                                                               361
                                                                                                                                                       421
                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                         661
                        쉽
                                                    ò
                                                                            셤
                                                                                                                        qq
                                                                                                  ò
                                                                                                                                                    ò
                                                                                                                                                                       a
                                                                                                                                                                                                   ò
                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                         S
S
                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
              420
                                                             480
                                                                PCYROGRYSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFFOSGVL 540
                                                                                                                                                             600
                                                                                                                                                                                     900
                                                                                                                                                                                                               099
                                                                                                                                                                                                                  601 LPGMVWQDRDVYLQGBIWAKIPHTDGHPHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT 660
                                                                                                                                                                                                                                                FSAAKFASFITQYSTGQVSVELEWELQKENSKRWNPELQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AKKRVLEPLGLVBEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQOPARKKLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
CLPPFPADVEMVPQYGYLTLANGSQAVGRSSEYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                I FGKQGSEKTINUDI EKVMITDEEEI RTTINPVATEQYGSYSTYLQRGNRQAATADVATQGV
                                                                                                                                                                 LPGMVWQPRDVYLQGPLWAKIPHTDGHPHPSPLMGGFGLKHPPPQILIKWTPVPANPSTT
                                                                                                                                                                                                                                                                  1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 735;
                                                                                                                                                                                                                                                                                                                                                                                 Sequence 13, Application US/10880297
| Publication No. US20050053922A1
| GENERAL INFORMATION:
| APPLICANT: SCHAPER, DAVID V. APPLICANT: SCHAPER, DAVID V. APPLICANT: MAHESTRI, NARENDRA
| TITLE OF INVENTION: MUTHAN AND SEQUENCE: BERK-024
| CURRENT PILION: MUTHAN AND METHODS OF USE THEREOF
| CURRENT PILION: MUTHAN: US/10/880,297
| CURRENT PILION: NUMBER: US/10/880,297
| PRIOR FILIGATION NUMBER: 06/484,111
| NUMBER OF SEQ ID NOS: 41
| SOFTWARE: FESTSEQ for Windows Version 4.0
| SEQ ID NO 13
| LEMSTH: 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
99.7%; Score 3984; D
Best Local Similarity 99.7%; Pred. No. 0;
Matches 733; Conservative 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: adeno-associated virus-2
                                                                                                                                                                                                                                                                                                                    SEPRPIGTRYLTR 733
                                                                                                                                                                                                                                                                                                SEPRPIGTRYLTR 733
                                                                                                                                                                                                                                                                                                                                                                       US-10-880-297-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-880-297-13
                                                                                                                                                                                                109
                                                 421
                                                                        421
                                                                                                  481
                                                                                                                         481
                                                                                                                                                 541
                                                                                                                                                                         541
                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                           ,
60
                                              ġ
                                                                                         कें के के
                     유
                                                                qq
                                                                                                                                                                                     ठे
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                    윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

ö

240

300 300 360 360 540 540 9 660

g ઠે g ઠે 엄 ò q ò 셤

ઠે

8 8

g

ઠે 셤 ò g ò

ठ

```
CLPPPPADVEMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                 CLPPFFADVFWVPQYGXLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFRVDANGVY 720
                                                                                                                                                                                                                                                                                                                                                           NNNWGFRPKRLNFKLFNJQVKEVTQNDGTTTJANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
     MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                        KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                             61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                 TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                      NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                              AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                            SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                    TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                       SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        I FGKOGSEKTNVDI EKVMI TDEEEIRTTNPVATEQYGSVSTNLORGNROAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 9, Application US/10880297
Publication No US20050053922A1
GENERAL INFORMATION:
APPLICANT: SCHAFFER, DAVID V.
APPLICANT: KASPAR, BRIAN
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR
TILINE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRUS
FILING DATE: 2004-06-28
PRIOR APPLICATION NUMBER: 60/484,111
PRIOR APPLICATION NUMBER: 60/484,111
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; TYPE: PRT
; ORGANISM: adeno-associated virus-2
US-10-880-297-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
US-10-880-297-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 735
                                        61
                                                                                                              121
                                                                                                                                                                                       181
                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                              8
                                                                     g
                                                                                                  õ
                                                                                                                                       g
                                                                                                                                                                                     δ
                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                  300
                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       099
                                                                                                                                                                                                     NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                            NNNWGFRPKRLNFKLFNI QVKEVTQNDGTTTI ANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                             HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                      TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                 CLPPFPADAFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                            CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                      HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                             PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VIRIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 7, Application US/10880297
; Bublication No. US20050053922A1
; GENERAL INFORMATION:
; APPLICANT: SCHAFFER, DAVID V.
; APPLICANT: KASPAK, BRIAN
; APPLICANT: MAHESTRI, NARRWDRA
; TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR:
; TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR:
; TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIR:
; CURRENT PRILICATION NUMBER: US/10/880,297
; CURRENT FILING DATE: 2004-06-28
; PRIOR APPLICATION NUMBER: 60/484,111
; SOFTWARE: PREUSED FOR Windows Version 4.0
; SEQ ID NOS: 41
; SEQ ID NOS: 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 99.7%; Score 3983; DB 17;
Best Local Similarity 99.7%; Pred. No. 0;
Matches 733; Conservative 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: adeno-associated virus-2
US-10-880-297-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-880-297-7
                                                        181
                                                                                        181
                                                                                                                             241
                                                                                                                                                                241
                                                                                                                                                                                                       301
                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
```

ω

```
ô
                                                                                                                                                                                    61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                   121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQPSQAGASDIRDQSRNWLPG 480
                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEKFFPQSGVL 540
                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IFCKQGSEKTINVDIEKVMITDEEEIRTTINPVATEQYGSVSTNLQRGNRQAATADVNTQGV 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                        1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPRKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                        SVPDPQPLGQPPAAPSGLGTNTWATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                TISTRIWAL PTYNNHLYKQISSQSGASNDNHYPGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                           NNNWGFR PKRLINFKLFNI QVKEVTQNDGTTTI ANNLTSTVQVFTDSEYQL PYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                         CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                      PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDBEKRFPQSGVL
                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            L.PGMVWQDRDVYLQGPIWAKI.PHTDGHFHPSPLMGGFGLKHPPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FSAAKEASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                 Length 735;
                                                                                                                       Indels
                                                                                                DB 17;
                                                                                                                       3;
                                                                                           99.6%; Score 3980; Dilarity 99.6%; Pred. No. 0; Conservative 0; Mismatches
NUMBER OF SEQ ID NOS: 41
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 31
LENGTH: 735
                                            ; TYPE: PRT
; ORGANISM: adeno-associated virus-2
US-10-880-297-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-880-297-25
Sequence 25, Application US/10880297
Publication No. US20050053922A1
GENERAL INFORMATION:
APPLICANT: SCHAFFER, DAVID V.
APPLICANT: KASPAR, BRIAN
APPLICANT: MAHESTRI, NARENDRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEPRPIGTRYLTRNL
                                                                                                       Similarity
                                                                                           Query Match
Best Local Simil
Matches 732; C
                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
                                                                                                                                                         g
                                                                                                                                        ઠે
                                                                                                                                                                                    ò
                                                                                                                                                                                                      유
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
```

σ

```
LENGTH: 735
                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99
                                                                                                                                                                                                                                                                                                                                                                                                TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                     NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLSSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCYRQORVSKTSADININSEYSWIGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPOSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQ1LIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                1 MAADGYLPDWLEDTLSEGIROWWKLKPGPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                             KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                         AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                    SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                SVPDPQPLGQPPAAPSGLGTNTWATGSGAPMADNDEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                             TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                            NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            I FGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILLIXNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                            Gaps
                                                                                                                                                                                           ..
0
                                                                                                                                                                       735;
                                                                                                                                                                      Length
                                                                                                                                                                                           Indels
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRIONS TITLE OF INVENTION: AND METHODS OF USE THEREOF
                                                                                                                                                                      DB 17;
                                                                                                                                                                                           5,
                                                                                                                                                                                            Mismatches
                   FILE REFERENCE: BERK-024
CURRENT APPLICATION NUMBER: US/10/880,297
CURRENT FILING DATE: 2004-06-28
FRIOR APPLICATION NUMBER: 60/484,111
PRIOR FILING DATE: 2003-06-30
NUMBER OF SEQ ID NOS: 41
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 25
LENGTH: 735
                                                                                                                                                                     Score 3975;
Pred. No. 0;
                                                                                                                       ; TYPE: PRT
; ORGANISM: adeno-associated virus-2
US-10-880-297-25
                                                                                                                                                                                          2;
                                                                                                                                                                  Query Match 99.5%;
Best Local Similarity 99.5%;
Matches 731; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                     ч
                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ď.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             `≿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPEYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SVPDPQPLGQPPAAPPGLGTNTWATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTSTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NNNWGFR PKRLNFKLFNI QVKEVTQNDGTTTI ANNL PSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCYROORVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661 FSAAKFASFITQYSTGQVSVELEWELQKENSKRWNPELQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTSTRTWALPTYNNHLYKQ1SSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LPGMVWQDRDVYLQGP1WAK1PHTDGHFHPSPLMGGFGLKHPPPQ1L1KNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              735;
Sequence 27, Application US/10880297
Publication No. US20050053922A1
GENERAL INFORMATION:
APPLICANT: SCHAFFER, DAVID V.
APPLICANT: KASPAR, BRIAN
APPLICANT: KASPAR, BRIAN
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRIONS
TITLE OF INVENTION: MUTANT ADENO-ASSOCIATED VIRUS VIRIONS
TITLE OF INVENTION: MUTANT ADENO-BERENCE;
TITLE OF INVENTION: AND METHODS OF USE THEREOF
TILE REFERENCE: BERK-024
CURRENT APPLICATION NUMBER: US/10/880,297
CURRENT PILING DATE: 2004-06-28
PRIOR APPLICATION NUMBER: 60/484,111
PRIOR FILING DATE: 2003-06-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                             0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 3975; DB
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FastSEQ for Windows Version SEQ ID NO 27
                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: adeno-associated virus-2
US-10-880-297-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 99.6%;
Matches 732; Conservative
                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

දු ද

Search completed: May 19, 2005, 13:46:05 Job time : 142 secs

```
Sequence 1, Appli
Sequence 1, Appli
Sequence 13, Appli
Sequence 15, Appl
Sequence 17, Appl
Sequence 16, Appl
Sequence 16, Appl
Sequence 18, Appl
Sequence 19, Appl
Sequence 11, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 17, Appl
Patent No. 5223424
Patent No. 5223424
Sequence 2, Appl
Sequence 15, Appl
Sequence 12, Appl
Sequence 27, Appl
Sequence 27, Appl
Sequence 34, Appl
                                                                                                                                                                May 19, 2005, 13:24:55 ; Search time 42 Seconds (without alignments) 1306.359 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                .....TNGVYSEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        513545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Issued Patents AA:*

(cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

(cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

(cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

(cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

(cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

(cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

(cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-807-802A-3
US-09-807-802A-13
US-09-807-802A-15
US-09-807-802A-15
US-09-532-594B-4
US-09-532-594B-18
US-09-532-594B-18
US-09-532-594B-18
US-08-856-841-16
US-08-856-841-19
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
US-08-856-841-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-022-949-2
US-08-856-841-15
US-08-856-841-12
US-08-856-841-9
US-08-469-202-27
US-08-484-434C-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-293-478-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            513545 segs, 74649064 residues
GenCore version (c) 1993 - 2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                             - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                    US-10-038-972A-13
3994
1 MAADGYLPDWLEDTLSEGIR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.00000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

0.00000

0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .......
                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  seq
sed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3994
3402.5
3402.5
3402.5
2481.5
2481.5
1509.5
1509.5
1509.5
1509.5
1509.5
1509.5
1509.5
1509.5
1509.5
1609.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709.5
1709
                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB
Maximum DB
                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database :
                                                                                                                                                                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Result
No.
                                                                                                                                                                      Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĕ
```

Sequence 34, Appl Sequence 3855, Appl Sequence 6, Appli Sequence 4, Appli Sequence 4, Appli Sequence 4, Appli Sequence 1780, Appl Sequence 1780, Appl Sequence 21, Appl Sequence 21, Appl Sequence 1319, Appl Sequence 1320, Appl Sequence 26692, Appl Sequence 28, Appl	CAPSID IMMUNOLOGIC DETERMINANTS	Length 735; Indels 0; Gaps 0;	KGLVLPGYKYLGPFNGLD 60	RIKEDTSFGGNLGRAVFQ 120 	SQQPARKRLNFGQTGDAD 180 	VSSGNWHCDSTWMGDRVI 240	DENREHCHFSPRDWQRLI 300
US-09-384-361-34 US-09-107-532A-3855 US-08-812-82-6 US-09-373-187-4 US-09-373-187-4 US-09-386-962-4 US-09-386-962-4 US-09-386-962-4 US-09-386-963-4 US-09-386-963-4 US-09-386-963-4 US-09-386-963-4 US-09-386-963-4 US-09-386-91180 US-09-48-7968-15119 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310 US-09-538-092-1310	ALIGNMENTS TED VIRUS /321,589	; Score 3994; DB 4; ; Pred. No. 0; 0; Mismatches 0;	MAADGYLPDWLBDTLSEGIRQWWKLKPGPPPRKPAERHKDDSRGLVLPGYKYLGPFNGLD 	KGEPVNEADAAALBHDKAYDRQLDSGDNPYLKYNHADAEFQBRLKEDTSFGGNLGRAVF 	AKROVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGGTGDAD 	VPDPQPLGQPPAAPSGLGTNTMATGSGAPWADNNEGADGVGNSSGNWHCDSTWMGDRVI 	TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
0655 4 10095 4 560 3 560 3 10095 4 11042 4 11055 4	cation US/093. 4 ON: SALIL D. THUR, JAMES G ON: ADENO-ASS 396.72 100 NUMBER: U ATE: 1999-05 NOS: 1 In Ver. 2.1 -associated v	100.0% 100.0% trive	EDTLSEG	ALEHDKA:	VEEPVKT	PAAPSGL PAAPSGL	YNNHLYK YNNHLYK
	SULT 1 Sequence 1, Application US/0932158 Patent No. 649824 Patent No. 649824 APPLICANT: PATEL, SALIL D. APPLICANT: MCARTHUN: APPLICANT: MCARTHUN: APPLICANT: MCARTHUN: JAMES G. TITLE OF INVENTION: ADENO-ASSOCIAFILE REPERENCE: 39672 CURRENT APPLICATION NUMBER: US/09 CURRENT FILING DATE: 1999-05-28 NOFWHARE: PatentIN Ver. 2.1 LENGTH: 735 LENG	100 ilarity 100 Conservative	ADGYLPDWI ADGYLPDWI	EPVNEADAA 	XRVLEPLGI XRVLEPLGI	PDPQPLGQF PDPQPLGQF	STRTWALPT STRTWALPT
1119 1117 1117 1117 1115.5 1118 1113.5 1113.5 1113.5 1113.5 111.5	SULT 1 Sequence 1, Applica Sequence 1, Applica Patent No. 649834 APPLICANT: PATEL, APPLICANT: PATEL, APPLICANT: PATEL, APPLICANT: PATEL, APPLICANT: PATEL, APPLICANTON FILE REFRENCE: 39 CURRENT APPLICATION FILE REFRENCE: 35	/ Match Local Similarity nes 735; Conser	1 1 M	61 KG	121 AK 121 AK	181 SV 181 SV	241 TT 241 TT
00000000000000000000000000000000000000	RESULT 1 US-09-311-58 US-09-311-58 US-09-311-58 US-09-311-58 US-09-311-58 US-09-321-58 US-09-321-58	Query Match Best Local Matches 73	දුරු පුර	λ 2	\$ a	ر كو م	ک a

301

8 %

ò පු

361 361

241 301

NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG

CLPPFPADVEMVPQYGYLTLANGSQAVGRSSFYCLEXFPSQMLRTGNNFTFSYTFEDVPF

CLPPFPADVFWVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF

유

g ò 8 à g δ . 염 ò

```
Sequence 3, Application US/09807802A

Patent No. 675237

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Wilson, James M.
APPLICANT: Wilson, James M.
APPLICANT: Xiao, Weidong
TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences,
TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences,
TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences,
CURRENT APPLICATION NUMBER: US/09/807,802A
CURRENT FILING DATE: 1990-11-05
FRIOR APPLICATION NUMBER: PCT/US99/25694
FRIOR FILING DATE: 1999-11-02
SOGTWARE: PatentIn Version 3.1
SEQ ID NOS: 20
SEQ ID NOS: 20
SEQ ID NOS: 20
SEQ ID NOS: 20
SEQ ID NOS: 20
SEQ ID NOS: 20
SEQ ID NOS: 20
SEQ ID NOS: 20
                                                                 420
                                                                                              480
                                                                                                                                                                                  540
NNNWGFRPKRINFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                       540
                                                                                                                                                                                                               009
                                                                                                                                                                                                                       099
                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 KGEPVNAADAAALEHDKAYDQQLKAGDNPYLRYNHADAEFQERLQEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AKKRVLBPLGLVEBPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09
                                                HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                             PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDBEKFFPQSGVL
                                                                                                                                                               LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                             CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                      541 IFGKQGSEKTINVDIEKVMITDEEIRTTINPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                  61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 85.2%; Score 3402.5; DB 4; Length 736; Best Local Similarity 83.3%; Pred. No. 2.2e-276; Matches 613; Conservative 51; Mismatches 71; Indels 1;
                                                                                                                                                                                                                                                                                                                                                                                                   SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: AAV-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-807-802A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-807-802A-3
                                                                                                                                                                          481
 301
                                                                                     421
                                                                                                                  421
                                                                                                                                              481
                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                          à
                                                원
장
                                                                                                         음 &
                                                                                                                                                                  임
                                                                                                                                                                                              ð
                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                540
                                                                                                                           900
                                                                                                                                                       900
                                                                                                                                                                                              FSAAKPASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1, Application US/10293478
PREEL NO. 6733757
APPLICANT: PATEL, SALIL D.
APPLICANT: PATEL, SALIL D.
APPLICANT: PATEL, SALIL D.
APPLICANT: MCARTHUR, JAMES G.
TITLE OF INVENTION: ADENO-ASSOCIATED VIRUS CAPSID IMMUNOLOGIC DETERMINANTS
CURRENT APPLICATION NUMBER: US/10/293,478
CURRENT FILING DATE: 2002-11-14
PRIOR APPLICATION NUMBER: US/09/321,589
NUMBER OF SEQ ID NOS: 1
SEQ ID NOS: 1
SEQ ID NOS: 1
SEQ ID NO 1
LENGTH: 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NNNWGFRFKELNFKLPNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLFYVLGSAHQG 360
 HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                       PCYROGRUSKTSADNINISEYSWTGATKYHLNGRDSLVNPGPAMASHKDDBEKFFPQSGVL
                                                                           IFGKÇGSEKTINVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                   LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPPQILLIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 4; Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 3994;
100.0%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Adeno-associated virus
                                                                                                                                                                                                                                                                                          721 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 735; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-293-478-1
                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                 661
                                                                                     481
                                                                                                                    541
   421
                             421
                                                          481
                                                                                                                                                                           601
                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                       ò
```

ò 용 ઠે 셤 à 셤 8 8 a ð

õ

ന

```
FATCHEN NO. 9. 59243.

FATCHEN NO. 9. 59243.

APPLICANT: Wilson, James M.

APPLICANT: Wilson, James M.

APPLICANT: Wilson, Weidong

TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences,

TITLE OF INVENTION: Vectors and Host Cells Containing Same

FILE REPERENCE: GNVEN. 031USA

CURRENT APPLICATION NUMBER: US, 69/807, 802A

CURRENT FILING DATE: 1998-11-05

FRIOR FILING DATE: 1998-11-05

FRIOR FILING DATE: 1999-11-02

NUMBER OF SEQ ID NOS: 20

SOFTWARE: PATCH NUMBER: PATCH SIGN 3.1

LENGTH: 599
                                                   300
                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                    GCLPPFPADVFMIPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEEVP 420
                                                                                                                                                                                                                                                                                                                                                                                                        421 FHSSYAHSQSLDRLMNPLIDQYLYYLNRTQNQSGSAQNKDLLFSRGSPAGMSVQPKNWLP 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601 ALPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKNPPPQILIKNTPVPANPPA 660
                                                                                                                                                                                                                                             300 INNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQ 359
                                                                                                                                                                                                                                                                                                                                                                                     479
                                                                                                                                                                                                                                                                                                                                                                                                                                                           539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661 EFSATKFASFITQYSTGQVSVEIEWELQKENSKRWNPEVQYTSNYAKSANVDFTVDNNGL 720
 61 KGEPVNAADAAALEHDKAYDQQLKAGDNPYLRYNHADAEFQERLQEDTSFGGNLGRAVFQ 120
                                                                                                                        241 TTSTRTWALPTYNNHLYKQISSASTGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL
                                                                                                                                                                                                                                                                 301 INNNWGFRPKRLNFKLFNIQVKEVTTNDGVTTIANNLTSTVQVFSDSEYQLPYVLGSAHQ
                                                                                                                                                                                                                                                                                                                                                                                     FHSSYAHSQSLDRIANPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLP
                                                                                                                                                                           TISTRIWALPIYNNHLYKQISSQS-GASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL
                                                                                                                                                                                                                                                                                                                  GCLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481 GPCYRQQRVSKTKTDNNNSNFTWTGASKYNLNGRESIINPGTAMASHKDDEDKFFPMSGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LIFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600 VLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILLIKNTPVPANPST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660 TFSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGV
                                                                                                      SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 599;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2764.5; DB 4;
Pred. No. 5.1e-223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
108-09-807-802A-15
'Sequence 15, Application US/09807802A
'Parent No. 6759237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720 YSEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: AAV-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-807-802A-15
                                                                                                    181
                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                    121
                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                8
                                                        g
                                                                                           õ
                                                                                                                               요
                                                                                                                                                                       ò
                                                                                                                                                                                                   g
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 13. Application US/09807802A

| Patent No. 6759237
| GENERAL INFORMATION
| Patent No. 6759237
| GENERAL INFORMATION
| APPLICANT: Wilson, James M.
| APPLICANT: Wilson, James M.
| APPLICANT: Xiao, Weldong
| TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences,
| TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences,
| TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences,
| TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences,
| FILE REFERENCE: GNVPN 0310SA
| CURRENT PAPPLICATION NUMBER: US 60/107,114
| PRIOR FILING DATE: 1998-11-05
| PRIOR FILING DATE: 1999-11-02
| NUMBER OF SEQ ID NOS: 20
| SOFTWARE: PatentIn version 3.1
| SEQ ID NO 13
| LENGTH: 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ä
                                                                                                                                                                           419
                                                                                                                                                                                                                                             479
                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                       599
                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                   300
                                                                                                      359
                                                                                                                        301 INNNWGFRPKRINFKLFNIQVKEVTTNDGVTTIANNLTSTVQVFSDSEYQLPYVLGSAHQ 360
                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TFSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGV 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661 EFSATKFASFITQYSTGQVSVEIEWELQKENSKRWNPEVQYTSNYAKSANVDFTVDNNGL 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
SVPDPQPLGEPPATPAAVGPTTWASGGGAPMADNNEGADGVGNASGNWHCDSTWLGDRVI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                           600 VLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPST 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MAADGYLPDWLEDNLSEGIREWWDLKPGAPKPKANQQKQDDGRGLVLPGYKYLGPFNGLD 60
                                                                                                                                                                                                                                                                                                                                                                                   241 TTSTRTWALPTYNNHLYKQISSASTGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL
                                                                                                  300 INNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQ
                                                                                                                                                                                           FHSSYAHSOSLDRIMNPLIDQYLYYLSRINTPSGTTTQSRLQFSQAGASDIRDQSRNWLP
                                                                                                                                                                                                                                                                                                                                    1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                         GCLPPFPADVFWVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVP
                                                                                                                                                                                                                                                                 GPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGV
                                  TISTRIWALPIYNNHLYKQISSQS-GASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 4; Length 736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .2e-276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 85.2%; Score 3402.5; Best Local Similarity 83.3%; Pred. No. 2.2e-Matches 613; Conservative 51; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YSEPRPIGIRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: AAV-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 4
US-09-807-802A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-807-802A-13
                                                                                                                                                                       360
                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                             420
181
                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                             a
                                                                                                                                                                                               ద
                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                          염
                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                δ
                                                          a s
                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

```
61 ASTGASNDNHYPGYSTPWGYPDFNRPHCHFSPRDWQRLINNNWGFRPKRLNFKLNFVLQVK 120
                                                                                                                   QS-GASNDNHYPGYSTPWGYFDFNRFHCHPSPRDWQRLINNNWGFRPKRLNFKLFNIQVK 321
                                                                                                     322 EVTONDGTTTIANNLISTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLN 381
                                                                                                                                                                                                          LYYLLSKTNITPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSFYS 501
                                                                                                                                                                                                                        1 MASGGGAPMADNNEGADGVGNASGNWHCDSTWLGDRVITTSTRTWALPTYNNHLYKQISS 60
                                                                                                                                                                                                                                                                          EEBIRTTINBVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYLQGPIWAKI 621
                                                                                                                                                                                                                                                                                                                              PHTDGHFHPSFLMGGFGLKHPPPQILIKWTPVPANPSTTFSAAKFASFITOYSTGOVSVE 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64 PVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQAKK 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            382 NGSGAVGRSSFYCLEYFPSGMLRTGNNFTFSYTFEDVPFHSSYAHSGSLDRLMNPLIDGY
                                                                                                                                                                                                                                                           502 WTGATKYHLNGRDSLVNPGPAMASHKDDREKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
                                                                                                                                                                                                                                                                                                                                                                                4 DGYLLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLDKGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 36; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                 682 IEWELOKENSKRWNPELOYTSNYNKSVNVDFTVDTNGVYSEPRPIGTRYLIRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                  FRATURE:
CTHER INFORMATION: Description of Artificial Sequence; No. 6468524e
CTHER INFORMATION: synthetic construct
NAME/KEY: misc. feature
CTHER INFORMATION: AAV4 capsid protein VP1
US-09-532-5948-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 734;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4, Application US/09532594B
Patent No. 646854
GENERAL INFORMATION:
APPLICANT: Chorini, John A.
APPLICANT: Safer, Brian
APPLICANT: Safer, Brian
APPLICANT: Baverly
TITLE OF INVENTION: AAV4 VECTOR AND USES THEREOF
FILE REFERENCE: 14014.0252U
CURRENT APPLICATION NUMBER: US/09/532,594B
CURRENT APPLICATION NUMBER: 2000-03-22
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastsEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60.0%; Score 2397; DB 4; 7 60.9%; Pred. No. 4.6e-192; tive 90; Mismatches 167;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 60.94
57; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-532-594B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  457;
                                                                                                                                                                                                          442
                                                                                                                                                                                                                                                                                                               562
                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S:
Matches 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ო
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                 à
                                                                    g
                                                                                                  ò
                                                                                                                     a
                                                                                                                                                    ò
                                                                                                                                                                         g
                                                                                                                                                                                                ð
                                                                                                                                                                                                                            쉽
                                                                                                                                                                                                                                                 ठे
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                            138 TAPGKKRPVEHSPVEPDSSSGTGKAGGQPARKRINFGQTGDADSVPPPQPLGOPPAAPSG 197
                                                                              198 LGINIMATGSGAFWADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRIWALPTYNNHLY 257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Wilson, James M.
APPLICANT: Wilson, James M.
TITLE OF INVENTION: Adeno-Associated Virus Serotype I Nucleic Acid Sequences, TITLE OF INVENTION: Vactors and Host Cells Containing Same TITLE OF INVENTION: Vactors and Host Cells Containing Same CURRENT APPLICATION NUMBER: US/09/807,802A CURRENT ELING DATE: 2002-02-21 PRIOR APPLICATION NUMBER: US 60/107,114 PRIOR APPLICATION NUMBER: US 60/107,114 PRIOR PLILING DATE: 1999-11-05 PRIOR FILING DATE: 1999-11-02 NUMBER OF SEQ ID NOS: 20

SOFTWARE OF SEQ ID NOS: 20

SOFTWARE OF SEQ ID NOS: 20
                                                                                                                                  KQISSQS-GASUDNHYPGYSTPWGYFDFNRFHCHFSPRDWGRLINNNWGFRPKRLNFKLF 316
                                                                                                                                                    NIQVKEVTQNDGTŢŢĪANNĻŢSŢVQVFTDSEXQLPYVLGSAHQGGLPPFFADVFMVPQYG 376
                                                                                                                                                                                                      9
                                                                                                                                                                                                                                       YLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSQSLDRLMNP 436
                                                                                                                                                                                                                                                        LIDQYLYYLSKINTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNN 496
                                                                                                                                                                                                                                                                                                         NSEYSWIGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL,FGKQGSEKTNVDIEK 556
                                                                                                                                                                                                                                                                                                                                                          VMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYLQGP 616
                                                                                                                                                                                                                                                                                                                                                                                                              919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OVSVETEWEL QKENSKRWNPEL QYTSNYNKSVNVDFTVDTNGVYSEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    203 MATGSGAPWADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISS 262
                                               61 VGPTTMASGGGAPWADNNEGADGVGNASGNWHCDSTWLGDRVITTSTRTWALPTYNNHLY
                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                IWAKIPHTEGHFHESPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYSTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                  1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4; Length 534;
              59; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
62.1%; Score 2481.5; DB 4
Best Local Similarity 83.3%; Pred. No. 2.3e-199;
Matches 445; Conservative 37; Mismatches 51;
         43; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 17, Application US/09807802A
Patent No. 6759237
GENERAL INFORMATION:
Matches 496; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: PRT
; ORGANISM: AAV-1
US-09-807-802A-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -09-807-802A-17
                                                                                                                                    258
                                                                                                                                                                                                                                                                                                                                            497
                                                                                                                                                                                                                                       377
                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                          437
                                                                                                                                                                                                                                                                                                                                                                                              557
                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    677
                                                  셤
                                                                      ò
                                                                                                  셤
                                                                                                                               Ġ
                                                                                                                                                a
                                                                                                                                                                         6 B 6.
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                   品
                                                                                                                                                                                                                                                                                                                                                                                                                                               Ġ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

13;

S

13;

Gaps

36;

Mismatches 155; Indels

16;

```
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 9
US-09-532-594B-18
 349;
                                                                                                                                                                                                                                                                                                      290
                                                                         197
                                                                                                  23
                                                                                                                                                 113
                                                                                                                                                                          315
                                                                                                                                                                                                                            375
                                                                                                                                                                                                                                                                                                                                                      348
                                                                                                                                                                                                                                                                                                                                                                                542
                                                                                                                                                                                                                                                                                                                                                                                                         404
                                                                                                                                                                                                                                                                                                                                                                                                                                 009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          583
                                                                                                                          255
                                                                                                                                                                                                                                                                             432
                                                                                                                                                                                                                                                                                                                              489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 099
  Matches
                          ઠે
                                            g
                                                                        ò
                                                                                             ద
                                                                                                                       ò
                                                                                                                                           g
                                                                                                                                                                  Š
                                                                                                                                                                                               g
                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                       ∂
                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                 644
                                                            RVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNF-GQTGDADSV 182
                                               183 PDPQPLGQPPAAPSGL--GTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI 240
                                                                                                              235 TISTRIWVLPTYNNHLYKRLGE---SLQSNTYNGFSTPWGYPDFNRFHCHFSPRDWQRLI 291
                                                                                                                                                 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                361 CLPPFPADVFMVPQYGY---LTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFED 417
                                                                                                                                                                                                                                                  VPFHSSYAHSQSLDRIMNPLIDQYLYYLSRINTPSGTTTQ---SRLQFSQAGASDIRDQS 474
                                                                                                                                                                                                                                                                                                    RNWLPGPCYRQQRVSKTSADNNNSEYSWTGA---TKYH----LNGRDSLVNPGPAMASHK 527
                                                                                                                                                                                                                                                                                                                    :|||||| :|| ||| || || 410 KNWLPGPSIKQGFSKTA--NQNYKIPATGSDSLIKYETHSTLDGRWSALTPGPPWATAG 527
                                                                                                                                                                                                                                                                                                                                                      528 DDEEKPFPQSGVLIFG--KQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQR 585
                                                                                                                                                                                                                                                                                                                                                                                                        GNRQAATADVNTQGVLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQ 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILIKNTPVPANPSTTFSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       645 IFIKNTPVPANPATTFSSTPVNSFITQYSTGQVSVQIDWEIQKERSKRWNPEVQPTSNYG 704
              SNLPTVDRLTALGAVPGAVWQNRDIYYQGPIWAKIPHTDGHFHPSPLIGGFGLKHPPPQ
                                                                                                                                                                                                                                                                                                                                                                       TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence; No. 6468524e OTHER INFORMATION: synthetic construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1797; DB 4;
Pred. No. 6.9e-142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 16, Application US/09512594B
Patent No. 6468524
GENERAL INFORMATION:
APPLICANT: Chorini, John A.
APPLICANT: Kotin, Robert M.
APPLICANT: Safer, Brian
APPLICANT: Davidson, Beverly
TITLE OF INVENTION: AAV4 VECTOR AND USES THEREOF
FILE REFERENCE: 14014.0252U2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KSVNVDFTVDTNGVYSEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_feature
OTHER INFORMATION: AAV4 capsid protein VP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/532,594B
CURRENT FILING DATE: 2000-03-22
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 16
LENGTH: 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       45.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Artificial Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8
US-09-532-594B-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-532-594B-16
                                                                                                                                                                                                                           352
124
                                                                                               241
                                                                                                                                                301
                                                                                                                                                                         292
                                                                                                                                                                                                                                                  418
                                                                                                                                                                                                                                                                             412
                                                                                                                                                                                                                                                                                                      475
                                                                                                                                                                                                                                                                                                                                                                                                                                                         646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 705
                   a
                                             ò
                                                                a
                                                                                             õ
                                                                                                                  g
                                                                                                                                           Š
                                                                                                                                                                  g
                                                                                                                                                                                               ò
                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

```
GAMSDDSEMRAAAGGAAVEGGQGADGVGNASGDWHCDSTWSEGHVTTTSTRTWVLPTYNN 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                        230 YGYCGLVTGNTSQQQTDRNAFYCLEYFPSQMLRTGNNFEITYSFEKVPFHSMYAHSQSLD 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       403
                                                                                                     254
                                                                                                                                                                                                            HLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFK 314
                                                                                                                                                                                                                                      LFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQ 374
                                                                                                                                                                                                                                                                                                                                                                                                                            YGY---LTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSQSLD 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RLMNPLIDQYLYYLSRTNTPSGTTTQ---SRLQFSQAGASDIRDQSRNWLPGPCYRQQRV 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TFSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGV 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |||:
TFSSTPVNSFITQYSTGQVSVQIDWEIQKERSKKWNPEVQFTSNYGQQNSLLWAPDAAGK 582
                                                                                                                                                                                                                                                                                                                                              1 TAPGKKRPLIESPQQPDSSTGIGKKGKQPAKKKLVFEDETGAGD------GPPEGSTS
                                                                                                     GL--GTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      463 AVPGMVWQNRDIYYQGPIWAKIPHTDGHFHPSPLIGGFGLKHPPPQIFIKNTPVPANPAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SKTSADNNNSEYSWTGA---TKYH----LNGRDSLVNPGPAMASHKDDEEKFFPQSGVLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PG--KQGSEKTINVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQG
TAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNF-GQTGDADSVPDPQPLGQPPAAPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Description of Artificial Sequence; No. 6468524e = OTHER INFORMATION: synthetic construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Kotin, Robert M.
APPLICANT: Safer, Brian
APPLICANT: Safer, Brian
APPLICANT: Davidson, Beverly
TITLE OF INVENTION: AAV4 VECTOR AND USES THEREOF
FILE REPERBNCE: 14014.025202
CURRENT APPLICATION NUMBER: US/09/532,594B
CURRENT FILING DATE: 2000-03-22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 18
LENGTH: 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ) NAME/KEY: misc feature
; OTHER INFORMATION: AAV4 capsid protein VP3
US-09-532-594B-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Sequence 18, Application US/09532594B
; Patent No. 6468524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720 YSEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No. 02000000
GENERAL INFORMATION:
APPLICANT: Chorini, John A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |:||| ||||||||| :|
YTEPRAIGTRYLTHHL
```

us-10-038-972a-13.rai

120

9

```
61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                   121 AKKRVLEPIGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGOOPARKRLNFGGTGDAD 180
                                                                                                                                                                                                                                                                                                          288 HCHFSFRDWQRLINNNWGFRPKRLNFKLFNIQVKEVT-QNDGTTTIANNLISTVQVFTDS 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   516 LVNPQP-AMASHKDDEEKFFPQSGVLIFG------KQGSEKTNVDIEKVMITDE 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  622 PHTDGHFHPS-PLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFIT--QYSTGQV 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            633 PNLDDSFKTQFAALGGWGLHQPPPQIPLKILP----QSGPIGGIKSMGITTLVQYAVGIM 688
                                                                MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKXLGPFNGLD
                                                                                               KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                          239 VITTSTRIWALPIYNNHLYKQIŞSQSGASND------NHYFGYŞTPWGYFDFNRF
                                                                                                                                                                                                                                                                                                                                                                              SVPDPQPLGQPPAAPSGLGTINTMATGSGAPMADNNEGADGVGNSS--GNWHCDSTWMGDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            347 EYOLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNN-GSQAVG------RSSFYCLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              397 YFPSQMLRTGNNETFSYTFEDVPFHSSYAHSQSLDRLANPLIDQYLYYLSRTNTPSGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            418 HSSFOLLGTGGTATMSYKFPPVPBNLEGCSQHFYEMYNPL-----YGSKLGVPD--TL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         470 GGDPKFRSLTHEDHAIQPQNFMPGPLVNSVSTKEGDSSNTGAGKALTGLSTGTSQNTRIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       457 QSRLOFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG-ATKYHLNGRDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 530 L-RPGPVSQPYHHWDTDKYVTGINAISHGQTTYGNAEDKEYQQGVGRFPNEKEQLKQLQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               563 EEIRTTINP-VATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMYWQDRDVYLQGPIWAKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       589 LANHIYFPENKGTQQY------TDQIERPLMVGSVWNRRALHYESQLWSKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 22, Application US/08856841

Parent No. 2274307

GENERAL INFORMATION:
APPLICANT: ERMIN SOUTSCHEK
APPLICANT: MANFRED MOTZ
TITLE OF INVENTION: IMMUNOLOGICALLY ACTIVE PEPTIDES
TITLE OF INVENTION: OR POLYPEPTIDES FROM THE PARVOVIRUS INVENTED ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: BROCKS HAIDT HAFFNER & DELAHUNTY STREET: 99 PARK AVENUE CITY: NEW YORK STATE: NY COUNTRY: USA COUNTRY: USA COMPUTER READABLE FORM: MEDIUM TYPE: 3.5" FLOPPY DISC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVEIEWEL-OKENSKRWNPE 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            :| : ::| :: ||||:
TVTMTFKLGPRKATGRWNPQ 708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
US-08-856-841-22
                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             589
                                                                                          g
                                                                                                                                                             8 8
                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                            10;
                                                                                                                                                                                                                                 322
                                                                                                                                                                                                                                    67 ---SLQSNTYNGFSTPWGYFDFNRFHCHFSFRDWQRLINNNWGMRPKAMRVKIFNIQVKE 123
                                                                                                                                                                                                                                                                                                     323 VTQNDGTŢŢĨĄNNĻŢSŢVQVFŢŖSĒYQLPYVLGSAHQGCLPPPPADVFMVPQYGY---LŢ 379
                                                                                                                                                                                                                                                                                                                                       || ::| ||:||||||||| :|
124 VTTSNGETTVANNLTSTVQIFADSSYELPYVMDAGQEGSLPPFPNDVFMVPQYGYCGLVT 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4, Application US/09438268
| Patent No. 6491907 |
| GENERAL INFORMATION: |
| APPLICANT: Rabinowitz, Joseph E. |
| APPLICANT: Rabinowitz, Joseph E. |
| APPLICANT: Rabinowitz, Joseph E. |
| APPLICANT: Rabinowitz, Joseph E. |
| APPLICANT: Atao, weldong |
| TITLE OF INVENTION: VIRUS VECTORS AND METHOD OF MAKING AND ADMINISTERING |
| TITLE OF INVENTION: THE SAME |
| FILE REPERENCE: 5470-186 |
| CURRENT APPLICATION NUMBER: US/09/438,268 |
| CURRENT APPLICATION NUMBER: 60/107,840 |
| EARLIER FILING DATE: 1999-11-10 |
| BARLIER APPLICATION NUMBER: 60/123,651 |
| NUMBER OF SEQ ID NOS: 59 |
| SOFTWARE: PatentIN Ver. 2.0 |
| LENGTH: 756 |
| TITLE OF INVENTION OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE PATENT OF THE P
                                                                                                                                                                                                                                                                                                                                                                                                          380 LNNGSQAVGRSSFYCLEYFPSQMLRIGNNFTFSYTFEDVPFH9SYAHSQSLDRLMNPLID 439
                                                                                                                                                                                                                                                                                                                                                                                                                                            QYLYYLSRTNTPSGTTTQ---SRLOFSQAGASDIRDQSRWWLPGPCYRQQRVSKTSADNN 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     497 NSEYSWIGA---TKYH----LNGRDSLVNPGPAMASHKDDEEKFFPQSGVLIFG--KQGS 547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             548 EKTNVDIEKVMITDEEBIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVMQ 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358 NTATVP-GTLIFTSEBELAATNATDTDWWGNLFQGDQSNSNLFTVDRLTALGAVFGMVWQ 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DRDVYLQGPIWAKI PHTDGHFHPSPLMGGFGLKHPPPQILI KNTPVPANPSTTFSAAKFA 667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18;
                                                                                          203 MATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISS
                                                                                                                              | : :|||||||||::
|MRAAAGGAAVEGGGADGVGNAASGDWHCDSTWSEGHVTTTSTRTWVLPTYNNHLYRRLGE
                                                                                                                                                                                                  263 QSGASNDNHYFGYSTPWGYFDFNRPHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVKE
                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SFITQYSTGOVSVEIBWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVYSEPRPIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                   25;
                   Length 544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 4; Length 756;
41.8%; Score 1669.5; DB 4; Length
58.0%; Pred. No. 2.9e-131;
tive 67; Mismatches 138; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        39.5%; Score 1579.5; DB 4; 47.6%; Pred. No. 1.7e-123; ive 81; Mismatches 232;
              Best Local Similarity 58.0%
Matches 318; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 47.6.
Matches 352; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         537 TRYLTHHL 544

// TYPE: PRT
// ORGANISM: Virus
US-09-438-268-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              728
                                                                                                                                                                                                                                    ģ ģ
                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                    6 B.
                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     रे हे रे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
```

417 456 469 515

```
305 GFRPKRLNFKLFNIQVKEVT-QNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLP 363
                                             122 SIAPDALTVTISEIAVKDVTDKTGGGVQVTDSTTGRLCMLVDHEYKYPYVLGQGQDTLAP 181
                                                                                                                     | |: ||| ||| : :| : |
182 ELPIWVYFPPQYAXLTVGDVNTQGISGDSKKLASEESAFYVLEHSSFQLLGTGGTASMSY 241
                                                                                                                                                                                  414 TFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQ 473
                                                                                                                                                                                                                             242 KFPPVPPENLEGCSOHFYEMYNPL-----YGSRLGVPD--TLGGDPKFRSLTHEDHAIO 293
                                                                                                                                                                                                                                                                             474 SRNWLPGPCYROORVSKTSADNNNSEYSWTG-ATKYHLNGRDSLVNPGP-AMASHKDDEE 531
                                                                                                                                                                                                                                                                                                          KFFPQSGVLIFG------KQGSEKTNVDIEKVMITDEEEIRTTNP-VATEQYGS 578
                                                                                                                                                                                                                                                                                                                                                                                                             353 KYVTGINAISHGQTTYGNAEDKEYQQGVGRFPNEKEQLKQLQGLNMHTYFPNKGTQQY-- 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                               579 VSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPS-PLMGGF 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          638 GLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYSTGQVSVEIEWEL-QKENSKRWNP 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     364 PFPADVFMVPQYGYLTLNN-GSQAVG-----RSSFYCLEYFPSQMLRTGNNFTFSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 16, Application US/08856841

Patent No. 6274307

GENERAL INFORMATION:
APPLICANT: ERMIN SOUTSCHEK
APPLICANT: MANFRED MOTZ
TITLE OF INVENTION: IMMUNOLOGICALLY ACTIVE PEPTIDES
TITLE OF INVENTION: OR POLYPEPTIDES FROM THE PARVOVIRUS B19
NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSEB: RROOKS HAIDT HAFFNER & DELAHUNTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B: BROOKS HAIDT HAFFNER & DELAHUNTY
99 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: 3.5" FLOPPY DISC
COMPUTER: AT&T - IBM COMPATIBLE
OPERATING SYSTEM: MS-DOS Version 6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/214,658
FILING DATE: 16-MARCH-1994
APPLICATION NUMBER: US 07/917,096
FILING DATE: 4-AUGUST-1992
APPLICATION NUMBER: PCT/DE91/00106
FILING DATE: 8-FEBRUARY-1991
APPLICATION NUMBER: DE40038262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: ROBINSON, WILLIAM R.
REGISTRATION NUMBER: 27,224
REFERENCE/DOCKET NUMBER: LKR-9222-A
TELECOMMUNICATION INPORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: ASCII
CURENT APPLICATION DATA:
APPLICATION NUMBER: US/08/856,841
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 8-FEBRUARY-1990
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 10016
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" FLOF
COMPUTER: AT&T - IBM C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    697 E 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-08-856-841-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                      532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE:
                                        셤
                                                                                      ò
                                                                                                                          셤
                                                                                                                                                                        ò
                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     202 TMATGS----GAPMADNNEGADGVGNSS--GNWHCDSTWMGDRVITTSTRTWALPTYNNH 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              256 LYKQISSQSGASND-----NHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNW 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62 HYKVFSPAASSCHNASGKEAKVCTISPIMGYSTPWRYLDFNALNLFFSPLEFQHLIENYG 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 12.2%; Score 486; DB 3; Length 543;
Best Local Similarity 27.4%; Pred. No. 5.1e-32;
Matches 148; Conservative 80; Mismatches 221; Indels 92; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ANTI-SENSE: N/A
PRAGMENT TYPE: INTERNAL
ORIGINAL SOURCE: SERUM PROM PATIENT WITH ACUTE
ORIGINAL SOURCE: INFECTION (ERYTHEMA INFECTIOSUM)
IMMEDIATE SOURCE: GENETICALLY ENGINEERED PEPTIDE
POSITION IN GENOME: N/A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amino acid analysis and mass spectrometry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE: PARVOVIRUS-LIKE PARTICLES IN HUMAN SERA
JOURNAL: LANCET
VOLUME: I
ISSUE
                                                                                                                        CLASSIFICATION:
PRIOR APPLICATION:
PRIOR APPLICATION DATA:
PREJIGATION UNMER: US/08/214,658
FILING DATE: 16-MACH-1994
APPLICATION NUMBER: US 07/917,096
FILING DATE: 4-AGGUST-1992
APPLICATION NUMBER: PCT/DE91/00106
FILING DATE: 8-FEBRUARY-1991
APPLICATION NUMBER: DA4038262
FILING DATE: 8-FEBRUARY-1990
ATTORNEY/AGENT INFORMARY-1990
ATTORNEY/AGENT INFORMATION:
NAME: ROBINSON, WILLIAM R.
REGISTRATION NUMBER: 27,224
REFERENCE/DOCKET NUMBER: LKR-9222-A
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
COMPUTER: AT&T - IBM COMPATIBLE
OPERATING SYSTEM: MS-DOS Version 6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22:
                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/856,841
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; FILING DATE:
; PUBLICATION DATE:
; RELEVANT RESIDUES IN SEQ ID NO:
US-08-856-841-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: N/A
LOCATION: N/A
LOCATION: N/A
LOBENTIFICATION METHOD: 0
LOBENTIFICATION METHOD: 0
THER INFORMATION:
AUTHORS: COSSART, Y.E.
AUTHORS: FIELD, A.M.
AUTHORS: GANT, B.
AUTHORS: WIDDOWS, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (212) 557-5635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEX: NONE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 543
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: LINEAR MOLECULE TYPE: DESCRIPTION: PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HYPOTHETICAL: N/A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOCUMENT NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       72 - 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
```

셤 ઠે

ò

```
124 HKPGQVSVQLPGTNYVGPGNELQAGPPQSAVDSAARIHDFRYSQLAKLGINPYTHWTVAD 183
                                                                                                   98 AEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSS 157
                                                                                                                                                                                                                                                                                                250 GGGSNSVKSMWSGGATFSANSVTCTFSRQFLIPYDPEHYKVFSPAASSCHNASGKEAKV 309
                                                                                                                                                                                                                                                                                                                                                     270 ---NHYFGYSTPWGYPDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVKEVT-Q 325
                                                                                                                                                                                                                                                                                                                                                                                  310 CTISPIMGYSTPWRYLDFNALNLFFSPLEFQHLIENYGSIAPDALTVIISEIAVKDVTDK 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  370 IGGGVQVIDSTIGRICMLVDHEYKYPYVLGQGQDTIAPELPIWVYFPPQYAXLIVGDVNT 429
                                                                                                                                                                                                                                                                                                                                                                                                                                       326 NDGTTTIANNLISTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNN-GS 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HKDDSRGLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHAD 97
                                                                                                                                                                                                                           218 -----GŚLPEVPAYNASEKYPŚMTSVNSAEASTGA------G
                                                                                                                                                                                                                                                                   218 ADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASND-----
                                                                                                                                                                                   158 GTGKAGQQPARKRLNFGQTGDADSVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         385 QAVG------RSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSGSLDRLMN
                                                                                                                                Sequence 18, Application US/08856841
Perent No. 6274307
Perent No. 6274307
Perent No. 6274307
Perent No. 6274307
APPLICANT: ERWIN SOUTSCHEK
APPLICANT: MANFRED MOTZ
TITLE OF INVENTION: IMMUNOLOGICALLY ACTIVE PEPTIDES
TITLE OF INVENTION: OR POLYPEPTIDES FROM THE PARVOVIRUS B19
NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSEE: BROOKS HAIDT HAPFNER & DELAHUNTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSEE: BROOKS HAIDT HAFFNER & DELAHUNTY
:: 99 PARK AVENUE
NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: 3.5" FLOPPY DISC
COMPUTER: ATET - IBM COMPATIBLE
OPERATING SYSTEM: MS-DOS Version 6.2
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 16-MARCH-1994
APPLICATION NUMBER: US 07/917,096
FILING DATE: 4-AUGUST-1992
APPLICATION NUMBER: PCT/DE91/00106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: ROBINSON, WILLIAM R.
REGISTRATION NUMBER: 27,224
REFERENCE/DOCKET NUMBER: LKR-9222-A
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUFTWARE: ASCII. CONTROL APPLICATION DATA:
APPLICATION NUMBER: US/08/856,841
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 8-FEBRUARY-1991
APPLICATION NUMBER: DE40038262
FILING DATE: 8-FEBRUARY-1990
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 10016
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" FLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           436 PL 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PL 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JS-08-856-841-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: CITY: NEW STATE: N)
                      38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   490
                                                     g
                                                                                               ò
                                                                                                                                셤
                                                                                                                                                                               ò
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DATE: 1982

DOCUMENT NUMBER:
FILING DATE:
FUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO: 16:
AUTHORS: SMITH, D.B.
AUTHORS: AUGHNSON, K.S.
TITLE: SINGLE STEP PURIFICATION OF POLYPEPTIDES
TITLE: GLUTATHIONE S. TRANSFERASE
VOLUME:
VOLUME:
FAGES: 31 - 4.6
DATE: 1982

DOCUMENT: GENE
PAGES: 31 - 4.6
DATE: DATE: 1982

DATE: 1982

DOCUMENT: GENE
PAGES: 31 - 4.6
DATE: 1982

DATE: 1982

DOCUMENT: GENE
PAGES: 31 - 4.6
DATE: 1982

DATE: 1982

PAGES: 31 - 4.6
PAGES: 31 - 4.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
10.8%; Score 431; DB 3; Length 500;
Best Local Similarity 27.5%; Pred. No. 1.8e-27;
Matches 116; Conservative 50; Mismatches 180; Indels
                                                                    LENGTH: 500
TYPE: AMINO ACID
TOPOLOCY: LINEAR
MOLECULE TYPE:
BECRIFTION: PEPTIDE
HYPOTHETICAL: N/A
HYPOTHETICAL: N/A
RAGMENT TYPE: INTERNAL
ORIGINAL SOURCE: SERUM PROM PATIENT WITH ACUTE
ORIGINAL SOURCE: GENETICALLY ENGINEERED PEPTIDE
POSITION:
NAMEDIATE SOURCE: GENETICALLY ENGINEERED PEPTIDE
POSITION:
NAMEDIATES NOWER: N/A
                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: N/A

LOCATION: N/A

IDENTIFICATION METHOD: amino acid analysis and
IDENTIFICATION METHOD: mass spectrometry
OTHER INFORMATION:
PUBLICATION INFORMATION:
AUTHORS: COSSART, Y.E.
AUTHORS: CANT, B.
AUTHORS: CANT, B.
AUTHORS: CANT, B.
AUTHORS: MIDDOWS, D.
TITLE: AUTHORS: LANCET
VOLUME: I LANCET
VOLUME: I LANCET
ISSUE:
PARVOVINGS-LIKE PARTICLES IN HUMAN SERA
JOURNAL: LANCET
VOLUME: I NACET
ISSUE:
PUBLICATION DATE:
PUBLICATION DATE:
PUBLICATION INFORMATION:
AUTHORS: MANIATIS, T.
AUTHORS: SAMBROOK, J.
TITLE: MOLECULAR CLONING
JOURNAL: COLD SPRING HARBOR, NY
VOLUME:
ISSUE:
PARTICAL: AMBROK, J.
TITLE: MOLECULAR CLONING
JOURNAL: COLD SPRING HARBOR, NY
ISSUE:
PARTE: 1902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO:
    (212) 697-3355
(212) 557-5635
                   TELEFAX: (212) 557-56
TELEX: NONE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DATE: 1988
DOCUMENT NUMBER:
                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: N/A
TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-856-841-16
```

```
GENERAL INFORMATION:
APPLICANT: ERMIN SOUTSCHEK
APPLICANT: ERMIN SOUTSCHEK
APPLICANT: MANPRED MOTZ
TITLE OF INVENTION: IMMUNOLOGICALLY ACTIVE PEPTIDES
TITLE OF INVENTION: OR POLYPEPTIDES FROM THE PARVOVIRUS B19
NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSEE: BROOKS HAIDT HAFFNER & DELAHUNTY
STREET: 99 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTI-SENSE: N/A
FRACHENT TYPE: INTERNAL
ORIGINAL SOURCE: SERUM FROM PATIENT WITH ACUTE
ORIGINAL SOURCE: INFECTION (ERYTHEMA INFECTIOSUM)
IMMEDIATE SOURCE: GENETICALLY ENGINEERED PEPTIDE
POSITION IN GENOME: N/A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S: COSSART, Y.E.
S: FIELD, A.M.
CANT, E. B.
S: WIDDOWS, D.
PARVOVIRUS-LIKE PARTICLES IN HUMAN SERA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid analysis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mass spectrometry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIPICATION:
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US/08/214,658
APPLICATION NUMBER: US 07/917,096
FILING DATE: 4-AUGUST-1992
APPLICATION NUMBER: US 07/917,096
FILING DATE: 8-FEBRURAY-1991
APPLICATION NUMBER: DE40038262
FILING DATE: 8-FEBRURAY-1990
ATTOCNNEY/AGENT INFORMATION:
NAME: ROBINSON, WILLIAM R.
REGISTRATION NUMBER: 27,224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: 3.5" FLOPPY DISC
COMPUTER: AT&T - IBM COMPATIBLE
OPERATING SYSTEM: MS-DOS Version 6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEGISTRATION NUMBER: 27,224
REFERENCE/DOCKET NUMBER: LKR-9222-A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 697-3355
TELEPAX: (212) 557-5635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/856,841
                                                                                                                      US-08-856-841-19; Sequence 19, Application US/08856841; Patent No. 6274307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IDENTIFICATION METHOD:
IDENTIFICATION METHOD:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEX: NONE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 10016
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" FLA
COMPUTER: AT&T - IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DESCRIPTION: PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LINEAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N/A
                                                                                                                                                                                                                                                                                                                                                                                                                NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: N/A
LOCATION: N/A
         ||
PL 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS:
AUTHORS:
AUTHORS:
AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE
                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98 AEFOERLKEDTSFGGNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSS 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     185 BELLKNIKNETGROAQVVKDYP----- 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         158 GTGKAGQQPARKRLNFGQTGDADSVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEG 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     219 -----GGSLPEVPAYNASEKYPSMTSVNSAEASTGA-----G 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    218 ADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASND----- 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   251 GGGSNSVKSMWSEGATFSANSVTCTFSRQFLIPYDPEHHYKVFSPAASSCHNASGKEAKV 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  270 ---NHYPGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGPRPKRLNFKLFNIQVKEVT-Q 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                311 CTISPIMGYSTPWRYLDFNALNLFFSPLEFQHLIENYGSIAPDALIVTISEIAVKDVTDK 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           371 TGGGVQVTDSTTGRLCMLVDHEYKYPYVLGQGQDTLAPELPIWVYFPPQYAYLTVGDVNT 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QAVG-----RSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSQSLDRLMN 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      431 OGISGDSKKLASEESAFYVLEHSSPOLLGTGGTASMSYKFPPVPPENLEGCSOHFYEMYN 490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           326 NDGTTTIANNLISTVQVFTDSBYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNN-GS 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38 HKDDSRGLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 10.8%; Score 431; DB 3; Length 501; Best Local Similarity 27.5%; Pred. No. 1.8e-27; Matches 116; Conservative 50; Mismatches 180; Indels
                                                                                                                                                                                                                                                         ANTI-SENSE: N/A
FRAGMENT TYPE: INTERNAL
FRAGMENT TYPE: INTERNAL
ORIGINAL SOURCE: SERUM PROM PATIENT WITH ACUTE
ORIGINAL SOURCE: INFECTION (ERYTHEMA INFECTIOSUM)
IMMEDIATE SOURCE: GENETICALLY ENGINEERED PEPTIDE
FRATURE: N/A
NAME/KEY: N/A
                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCATION: N/A
IDBNIFICATION METHOD: amino acid analysis and
IDBNIFICATION METHOD: mass spectrometry
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE: PARYOVIRUS-LIKE PARTICLES IN HUMAN SERA
JOURNAL: LANCET
VOLUME: I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO:
TELEPANE: (212) 697-3355
TELEFAX: (212) 557-5635
TELEX: NONE
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PUBLICATION INFORMATION:
AUTHORS: COSSART, Y.E.
AUTHORS: FIELD, A.M.
AUTHORS: CANT, B.
AUTHORS: MIDDOWS, D.
                                                                                                                                                                                                             DESCRIPTION: PEPTIDE
                                                                                                                                            AMINO ACID
                                                                                                                                                                     LINEAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAGES: 72 - 73
DATE: 1975
DOCUMENT NUMBER:
                                                                                                                                                                                                                            HYPOTHETICAL: N/
                                                                                                                                          TYPE: AMINO A TOPOLOGY: LIN MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       436 PL 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-856-841-18
                                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ISSUE:
PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            385
```

셤

Ω̈́

ઠે

đ

ò

ò

. DP:

б. ઠે 셤 ò

ò

ઠે

```
FILING DATE: 16-MARCH-1994
APPLICATION NUMBER: 18-07/917,096
FILING DATE: 4-AUGUST-1992
APPLICATION NUMBER: PCT/DE91/0106
FILING DATE: 8-FEBRUARY-1991
APPLICATION NUMBER: DE40038262
FILING DATE: 8-FEBRUARY-1990
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                         NAME: ROBINSON, WILLIAM R.
REGISTRATION NUMBER: 27,224
REFERENCE/DOCKET NUMBER: LKR-9222-A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 697-3355
TELEFAX: (212) 557-5635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20:
                                          US/08/214,658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                        20:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IDENTIFICATION METHOD: a
IDENTIFICATION METHOD: π
OTHER INFORMATION:
PUBLICATION INFORMATION:
AUTHORS: COSSART, Y.E.
AUTHORS: FIELD, A.M.
AUTHORS: CANT, B.
AUTHORS: MIDDOWS, D.
                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                           PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DESCRIPTION: PEPTIDE POTHETICAL: N/A
                                                                                                                                                                                                                                                                                                                                                                                             TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                  LINEAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOCUMENT NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               72 - 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: N/A
                                                                                                                                                                                                                                                                                                                       NONE
                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1975
                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-856-841-20
                                                                                                                                                                                                                                                                                                                                                                             LENGIH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ISSUE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                           116 HKPGQVSVQLPGTNYVGPGNILQAGPPQSAVDSAARIHDFRYSQLAKLGINPYTHWTVAD 175
                                                                                                                                                                                                                                                                                                                                                                           176 BELLKNIKNETGFQAQVVKDYF----- 209
                                                                                                                                                                                                                                                                                                                                                                                                                          158 GTGKAGQQPARKRLNFGQTGDADSVPDPQPLGQPPAAPSGLGTNTWATGSGAPMADNNEG 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 218 ADGVGNSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASND----- 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         270 ---NHYFGYSTPWGYFDFNRFHCHFSPRDWQRLINNNWGFRPKRLNFKLFNIQVKEVT-Q 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302 CTISPIMGYSTPWRYLDFNALNLFFSPLEFQHLIENYGSTAPDALTVTISEIAVKDVTDK 361
                                                                                                                                                                                                                                                                                                                                                  98 AEFOERLKEDISFGGNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSS 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                              210 ------GGSLPEVPAYNASEKYPSMTSVNSAEASTGA-----G 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242 GGGSNPVKSMMSEGATFSANSVTCTFSRQFLIPYDDFHHYKVFSPAASSCHNASGKEAKV 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          385 QAVG------RSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSQSLDRLMN 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 326 NDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNN-GS 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     362 TGGGVQVTDSATGRLCMLVDHEYKYPYVLGQGQDTLAPELPIWVYFPPQYAYLTVGDVNT 421
                                                                                                                                                                                                                                                                          38 HKDDSRGLVLPGYKYLGPFNGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHAD 97
                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                             76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: ERMIN SOUTSCHEK
APPLICANT: MANRED MOTZ
TITLE OF INVENTION: IMMUNOLOGICALLY ACTIVE PEPTIDES
TITLE OF INVENTION: OR POLYPEPTIDES FROM THE PARVOVIRUS B19
NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSES: BROOKS HAIDT HAFFNER & DELAHUNTY
STREET: 99 PARK AVENUE
                                                                                                                                                                                                           Length 486;
                                                                                                                                                                                                   10.7%; Score 428; DB 3; Length 48
27.7%; Pred. No. 3.1e-27;
tive 48; Mismatches 181; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5" FLOPPY DISC

COMPUTER: ATET - IBM COMPATIBLE

OPERATING SYSTEM: MS-DOS Version 6.2

SOFTWARE: ASCII

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/856,841

FILING DATE:
                                                  PAGES: 72 - 73

DATE: 1975

DOCUMENT NUMBER:
FILING DATE:
PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 20, Application US/08856841
Patent No. 6274307
GENERAL INFORMATION:
                                                                                                                                                                                                 Query Match
Best Local Similarity 27.7*
Matches 117; Conservative
LANCET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: NEW YORK
STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PL 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PL 437
                                                                                                                                                                US-08-856-841-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-856-841-20
JOURNAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                   /OLUME:
                                    ISSUE:
PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   436
                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                    · &
                                                                                                                                                                                                                                                                                                                                                                                 음
                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                          용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

```
14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D--TLGGDPKFRSLTHEDHAIQPQNFMFGPLVNSVSTKEGDSSNTGAGKALTGLSTGTSQ 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              342 VFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNN-GSQAVG-----RSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              452 SGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG-ATKYHL 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NGRDSLVNPGP-AMASHKDDBEKFFPQSGVLIFG------KQGSEKTNVDIEKV 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12 MLVDHEYKYPYVLGQGQDTLAPELPIWVYFPPQYAYLTVGDVNTQGISGDSKKLASEESA 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       392 FYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSYAHSQSLDRLMNPLIDQYLYYLSRTNTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 415;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 8.2%; Score 327; DB 3; Length 41:
Best Local Similarity 27.5%; Pred. No. 7.2e-19;
Matches 106; Conservative 55; Mismatches 166; Indels
ANTI-SENSE: N/A
FRAGMENT TYPE: INTERNAL
ORIGINAL SOURCE: SERUM FROM PATIENT WITH ACUTE
ORIGINAL SOURCE: INFECTION (ERYTHEMA INFECTIOSUM)
IMMEDIATE SOURCE: GENETICALLY ENGINEERED PEPTIDE
POSITION IN GENOME: N/A
                                                                                                                                                                                                                                                     amino acid analysis and mass spectrometry
                                                                                                                                                                                                                                                                                                                                                                                                     TITLE: PARVOVIRUS-LIKE PARTICLES IN HUMAN SERA JOURNAL: LANCET
```

```
184 NTRISL-RPGPVSQPYHHWDTDKYVTGINAISHGQTTYGNAEDKEYQQGVGRFPNEKEQL 242
               674 STGQVSVEIEWEL-QKENSKRWNPE 697
: | :: | :: | | | | | | 343 AVGIMTVTMTFKLGPRKATGRWNPQ 367
                                                                                                                         Search completed: May 19, 2005, 13:34:37 Job time : 44 secs
               8 8 8
                                                            8 & 8
g
```

THIS PAGE BLANK (USPTO)

```
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
```

- protein search, using sw model OM protein Run on:

May 19, 2005, 13:15:05; Search time 165 Seconds (without alignments) 1722.842 Million cell updates/sec

Title; Perfect score:

US-10-038-972A-13 3994 1 MAADGYLPDWLEDTLSEGIR......TNGVYSEPRPIGTRYLTRNL 735 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

2105692 segs, 386760381 residues Searched:

2105692 Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000 Minimum DB a

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

A_Geneseq_16Dec04:*

1: geneseqp1980s:*

2: geneseqp21090s:*

4: geneseqp2001s:*

5: geneseqp2001s:*

6: geneseqp2003ss:*

7: geneseqp2003bs:*

8: geneseqp2003bs:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Aag65792 Adeno-ass	Aab59844 AAV2 caps	Aam51508 Adeno-ass	Aau98974 Adeno-ass	Abb80231 AAV2 vp1	Abr82436 Adeno-ass	Abr62761 Adeno ass	Ade76571 Adeno-ass	Aab50326 Adeno-ass	Ade76568 Adeno-ass	Ade76570 Adeno-ass	Ade76569 Adeno-ass	Ade76567 Adeno-ass	Aab59846 AAV3B cap	Aab59845 AAV3A cap	Abb80233 AAV3 vp1	Abr62763 Adeno ass	Ade76572 Adeno-ass	Ade76589 Adeno-ass	Ade76592 Adeno-ass	Aab59847 AAV6 caps	Ade76566 Adeno-ass	Ade76595 Adeno-ass	. Ade76594 Adeno-ass	Ade76580 Adeno-ass
ID	AAG65792	AAB59844	AAM51508	AAU98974	ABB80231	ABR82436	ABR62761	ADE76571	AAB50326	ADE76568	ADE76570	ADE76569	ADE76567	AAB59846	AAB59845	ABB80233	ABR62763	ADE76572	ADE76589	ADE76592	AAB59847	ADE76566	ADE76595	ADE76594	ADE76580
DB	4	4	4	ស	9	9	7	7	4	7	7	7	7	4	4	9	7	7	7	7	4	7	7	7	7
Length DB	735	735	735	735	735	735	735	735	734	735	735	735	735	736	736	736	736	736	731	738	736	736	738	738	738
& Query Match	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3	7.06	7.06	9.06	90.5	89.1	88.4	88.4	88.4	88.4	85.7	85.5	85.4	85.4	85.3	85.3	85.2
Score	3994	3994	3994	3994	3994	3994	3994	3994	3967.5	3623	3622	3617	3615	3557.5	3532.5	3532.5	3532.5	3532.5	3421	3416.5	3409.5	3409.5	3405.5	3405.5	3404.5
Result No.	1	7	e	4	2	9	7	80	οŃ	10	11	. 12	13	14	15	16	. 17	18	19	20	21	22	23	24	25

Ade76586 Adeno-ass Ade76582 Adeno-ass Aay71167 Adeno-ass Abb80232 AAV1 vp1					Ade76597 Adeno-ass Ade76588 Adeno-ass Ade76599 Adeno-ass
ADE76586 ADE76582 AAY71167 ABB80232	ABR62762 ADE76565 ADE76590	ADE/6593 ADE76581 ADE76591	ADE76598 ADE76583 ABB80229 ABR62764	ADE76601 ADE76585 ADE76584	ADE76597 ADE76588 ADE76599
r r e 9	r r r ı		9 .	~ ~	~~~
738 738 736 736	736 736 731	738	736 736 736	736 738 738	736 733 736
85.2 85.2 85.2 85.2	85.2 85.2	85.1 85.0	8 8 8 8 4 4 8 2 6 6 9 6 2 6 6 6 6	84.9 84.9	84.7 84.7 84.6
3404.5 3404.5 3402.5 3402.5	3402.5 3402.5 3401	3397.5 3396 3396	3392.5 3392.5 3391.5 3391.5	3391.5 3391.5 3386.5	3383.5 3381 3379.5
26 27 28 29	32	2 W W C	334 3987	40 41 42	4 4 4 W 4 7

ALIGNMENTS

Recombinant viral vector; RVV; capsid; parvovirus; transgene; cytostatic; inverted terminal repeat; nootropic; neuroprotective; antianemic; ITR; antidiabetic; antitumour; gene therapy; adeno-associated virus; AAV; major coat protein; AAV-2; VPI. Adeno-associated virus 2 (AAV-2) major coat protein VP1. Ä AAG65792 standard; protein; 735 (first entry) 11-FEB-2002 AAG65792; AAG65792 RESULT 1

Adeno-associated virus 2. WO200168888-A2. 20-SEP-2001.

13-MAR-2001; 2001WO-US007927. 14-MAR-2000; 2000US-0189110P.

(NEUR-) NEUROLOGIX INC. Xiao W, During MJ;

WPI; 2001-596912/67. N-PSDB; AAI66974.

Recombinant viral vector useful in improving gene therapy in a subject, and for increasing efficiency of entry into a cell, comprises a chimeric capsid having one non-native amino acid sequence and a desired transgene.

Disclosure; Page 50; 53pp; English.

The invention provides a recombinant viral vector (RVV) comprising a chimeric capsid (I) having at least one non-native amino acid sequence, derived from a capsid protein domain of parvovirus (II), a virus (III), or their combination, and a transpare flanked 5' and 3' by inverted terminal repeat (ITR) sequences, derived from (II), (III), or their combination. The RVV is useful for improving gene therapy in a subject with a disorder, and for increasing the efficiency of entry into a cell, which involves producing (I) encapsulating a viral vector, and contacting a cell with RVV having (I) such that (II) binds to an attachment site on the cell surface and permits the vector to enter the cell efficiently. A

pharmaceutical composition comprising RVV with (I) containing a transgene bequence associated with a disease or a disorder such that expression of the transgene would result in amelioration of the disease or disorder such as inharited neurological and metabolic diseases e.g. lysosomal storage disease, Lesch-Nyhan syndrome, amyloid, polymeuropathy, Alzheimer amyloid, buchanne's muscular dystrophy, diseases of the blood e.g. sickle disbetes, clotting disorders and thalassemias of the blood e.g. sickle disbetes, diseases associated with hormone deficiencies, retinoblastoma central nervous system tumours, neoplasms, carcinomas, sarcomas, leukemias and lymphoma. The present sequence represents the adenoses of the construction of a chimeric vector ö 100.0%; Score 3994; 100.0%; Pred. No. 0; iive 0; Mismatches Conservative Query Match Best Local Similarity Matches 735; Conserv Sequence 735 AA; 61 121 61 181 241 301 301 361 421 361 421 481 ð 셤 ò 셤 유 ò ò 셤 ઠે 셤 ò g ઠે 吕 ò g 요 ઠે

ö KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120 180 TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 300 300 NNNWGFRPKRINFKLFNIGVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360 420 HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480 480 540 9 540 900 9 99 1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKFPAERHKDDSRGLVLPGYKYLGPFNGLD SVPDPQPLGQPPAAPSGLGTNTWATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI **AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD** HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF PCYROORVSKTSADININSEYSWTGATKYHLINGRDSLVNPGPAMASHKDDEEKFFPQSGVL PCYRQORVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL FSAAKFASFITQYSTGQVSVELEWELQKENSKRWNPELQYTSNYNKSVNVDFTVDTNGVY I FGK GGSEKTINV DI EKVMITDEE I RTTINPVATEQYGS VSTINL ORGURQAATAD VINT OGV Gaps LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT FSAAKFASFITQYSTGQVSVEIEWELQKENSKEWNPELQYTSNYNKSVNVDFTVDTNGVY .; 0 DB 4; Length 735; Indels SEPRPIGTRYLTRNL 735 541 481 601 601 661 199 721 721

The present invention relates to adeno-associated virus serotypes. The present sequence is capsid protein VP1 of one such serotype (AAV2). AAV2 can be used to contruct AAV viral vectors for use in gene therapy for a sickle cell anaemia, thalassaemia, blood clotting disorders and diabetes. The AAV viral vectors have increased transduction efficiency of a particular host cell as the AAV virion containing the AAV vector genome can be modified to express a capsid protein of an AAV serotype that transduces the selected host cell cancer; AIDS; Adeno-associated virus serotype 6 and viral vector derived from it gene therapy of cystic fibrosis, cancer, acquired immunodeficiency syndrome, sickle cell anemia, thalassemia and diabetes. AAV2; gene therapy; AAV viral vector; cystic fibrosis; atherosclerosis; sickle cell anaemia; thalassaemia; blood clotting disorder; diabetes; capsid protein VPI. 3 Ź protein; 735 Claim 7; Fig 2; 50pp; English 97US-00873168 97US-00873168. (first entry) Rutledge EA; capsid protein VPI. (UNIW) UNIV WASHINGTON associated virus WPI; 2001-060164/07. standard; Sequence 735 AA; US6156303-A. 11-JUN-11997; 28-MAR-2001 05-DEC-2000 Russell DW, AAB59844; AAB59844

for

120 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120 9 9 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ **AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD** 1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD 1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPABRHKDDSRGLVLPGYKYLGPFNGLD Gaps ö DB 4; Length 735; ; 0 Score 3994; I Pred. No. 0; ; Mismatches 100.0%; Sci 100.0%; Pri tive 0; 1 Query Match
Best Local Similarity 100.
Matches 735; Conservative 61 121 61 ò 셤 ò

> ઠે g ò g à g

ö

240 SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI SVPDPQFLGQPPAAPSGLGTNTMATCSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI TISTRIMALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI 181 241 241

301 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360

g ð

셤 ò g m

ö

Gaps

; 0 735;

Length Indels

4 ö 120 120 180 180

9

240 240 300 360

360

300

420

420 480 480 540 540 900 900 99 99 720 720

```
61 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                         121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                             TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                    HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541 IFGKQGSEKTNVDIEKVMITDEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                        KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                   AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                             SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                          TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                     CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                              FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                 SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                     HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 FGKQGSEKTNVDI EKVM1TDEEE1RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                         CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                   PCYROORVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
              B
            100.0%; Score 3994;
ilarity 100.0%; Pred. No. 0;
Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ż
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAU98974 standard; protein; 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Adeno-associated virus 2.
                         Similarity
             Query Match
Best Local Simil
Matches 735; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-NOV-2002
                                                                                                      61
                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAU98974;
                                                                                                                                                   121
                                                                                                                                                                                                 181
                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                         g
                                                                                                      ò
                                                                                                                       g
                                                                                                                                            8
                                                                                                                                                                    g
                                                                                                                                                                                               8
                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                     ર્જ
                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                               480
                                                                                                                             540
                                                                                                                                                   540
              360
                                    420
                                                          420
                                                                                                      480
                                                                                                                                                                           600
                                                                                                                                                                                                 900
                                                                                                                                                                                                                       999
                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence is provided in a specification relating to a virus-
like particle-forming protein, and to a peptide containing a nuclear-
shifting signal at its N-terminus that can form virus-like particles by
shifting to the nucleus of the animal cell in which it is expressed. The
method is used for forming virus-like particles from the VP3 capsid
protein of adeno-associated virus (AAV)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New virus-like particles from VP3 capside protein of adeno-associated virus, comprise a peptide containing a nucleus-shifting signal connected to its N-terminal.
HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                      541 IFGKQGSEKTIVVDIEKVMITDEEEIRTTINPVATEQYGSVSTNLQRGNAATADVNTQGV
                                                                                                                                                                                                                                                                 PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                         PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                       LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                    LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                 CLPPFPADVFWVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                    CLPPPPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                          I FGKQGSEKTINVDI EKVMI TDEEEIRTTINPVATEQYGSVSTINLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Adeno-associated virus; AAV; VP1; capsid; virus-like particle; nuclear localisation signal; VP3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Adeno-associated virus VP1 capsid protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 10-13; 33pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                 Ą
                                                                                                                                                                                                                                                                                                                                                                                                AAM51508 standard; protein; 735
                                                                                                                                                                                                                                                                                                                                       735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99JP-00249140
                                                                                                                                                                                                                                                                                                                  SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99JP-00249140
                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                              SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Adeno associated virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-599854/68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HAND/) HANDA H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 735 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JP2001169777-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                               02-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-JUN-2001
                                                        361
                                                                                                                                                  481
                                    361
                                                                               421
                                                                                                     421
                                                                                                                            481
                                                                                                                                                                          541
                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                         Š
                                                  g
                                                                        ઠે
                                                                                               g
                                                                                                                    ઠે
                                                                                                                                            쉽
                                                                                                                                                                        Ś
                                                                                                                                                                                          요
                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                      g
```

```
Adeno-associated virus 2 vector; AAV2; cancer; VP1 capsid;
heparin-sulphate proteoglycan; vaccine; immune response; ovarian cancer.
Adeno-associated virus 2 (AAV2) vector, VP1 capsid protein
```

04-JAN-2002; 2002WO-US000152. 2001US-0260124P. N-PSDB; ABK89694. WO200253703-A2 DS-JAN-2001) Bartlett JS; 11-JUL-2002

(CHIL-) CHILDRENS HOSPITAL INC WPI; 2002-583608/62.

The state of the s

New adeno-associated virus vector comprises a biotinylated capsid or capsid protein with enfaming acid in the VPI capsid, useful a vaccine or for transferring a therapeutic peptide to a cancer cell. Claim 1; Page 49-51; 57pp; English.

a8

The invention relates to an adeno-associated virus (AAV) vector (I) acid insertion following the capsid or capsid protein (II) with an amino or 67 in the VPI capsid. The capsid amino acid at position 139, 161, 588 containing one or more amino acid insertions that ablate the ability of the vector to bind heparin sulphate proteoglycan and allow the vector to bind heparin sulphate proteoglycan and allow the vector to bind heparin sulphate proteoglycan and allow the vector to bind heparin sulphate proteoglycan and allow the vector to use a cellular receptor not used by wild type AAV. Modified (I) are response can be protective and/or therapatic. (I) may be used to reasisfer a therapeutic peptide to a cancer cell, particularly to an varian cancer cell. The present sequence represents the adeno-associated virus. 2 (AAV2) vector, VPI capsid protein used in to make modified AAV2

Sequence 735 AA;

ö 1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD Gaps ö Length 735; Indels DB 5; ; 0 'Match 100.0%; Score 3994; Local Similarity 100.0%; Pred. No. 0; es 735; Conservative 0; Mismatches Query Match Best Loca Matches d ઠ

> ò 용 ò

සි දි 엄 ò q à 셤

240 240 SVPDPOPLGOPPAAPSGLGTNTMATGSGAPMADNNEGADGYGNSSGNWHCDSTWMGDRVI SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI TISTRIWAL PTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSFRDWQRLI 181 181 241

300

300 360 360 420 TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI NNNWOFR PKRLNFKL FNI QVKEVTQNDGTTTI ANNLTSTVQVFTDSEYQLPYVLGSAHQG 241 301 301 361

g ठ

à

420

600 900 99 9 FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720 720 PCYROGRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL 481 PCYRQQRVSKTSADNINISEYSWIGAIKYPLINGRDSLVNPGPAMASHKDDEEKFPPQSGVL I PGKQGSEKTNVDI EKVMI TDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV LPGMVWQDRDVXLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT 735 SEPRPIGTRYLTRNL 601 481 541 601 661 721 721 셤 à 셤 ò 셤 à gg ò g

ABB80231 standard; protein; 735 RESULT 5 ABB80231

Ş

(first entry) 20-NOV-2003

ABB80231;

AAV2 vpl protein.

Adeno-associated virus; AAV; serotype 9; rep; cap; vp1; vp2; vp3; Adeno associated virus serotype 2. splice variant; transgene.

12-NOV-2002; 2002WO-US033631. 2001US-0341150P. 2002US-0386132P. WO2003052052-A2. 17-DEC-2001; 05-JUN-2002; 26-JUN-2003.

2

Wilson JM, Alvira M, (UYPE-) UNIV PENNSYLVANIA. WPI; 2003-523523/49 Gao G,

capsid, to a cell. New isolated adeno-associated virus (AAV) comprising an AAV9 useful for preparing a medicament for delivering a transgene

Disclosure; Fig 2; 76pp; English.

The sequences given in ABB80211-34 represent vpl proteins derived from various adeno-associated virus (AAV) serotypes. These sequences were used in the scope of the invention for comparison with the cap protein derived from AAV serotype 9. The AAV capsid comprises three proteins vpl, vp2 and vp3, which are alternative splice variants. The AAV or the nucleic acid molecule, is useful for preparing a medicament for delivering a transgene

Sequence 735 AA;

Gaps ; 0 Length 735; 0; Indels DB 6; cch 100.0%; Score 3994;
al Similarity 100.0%; Pred. No. 0;
735; Conservative 0; Mismatches Query Match Best Local Matches 73

ő 9 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPAERHKDDSRGLVLPGYKYLGPPNGLD н ð g

d 8 g જે g ઠે

ઢ

```
The invention relates to a recombinant adenovirus comprising an adenovirus that encodes one or more AAV REP78/68 polypeptides that are inducibly expressed. A complete virus-mediated system for recombinant AAV production is provided which comprises: (a) a first recombinant AAV adenovirus encoding one or more AAV REP78/68 polypeptides and one or more AAV REP78/68 polypeptides and one or more a gene of interest and AAV inverted terminal respeats that flank the gene of interest; (c) viral helper functions; and (d) a host cell comprising the first recombinant adenovirus, the second recombinant adenovirus, the viral helper functions. The recombinant adenovirus, and the viral helper functions. The recombinant adenovirus and gene the viral helper functions. The recombinant adenovirus and gene therapy. The present sequence represents an AAV-2 CAP VP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                      denovirus comprising an adenovirus that encodes one or polypeptides that are inducibly expressed, useful as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAADGYLPDWLEDTLSEGIRQWWKIKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NNNWGFR PKRLNFKLFNI QVKEVTQNDGTTTI ANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCYRQORVSKTSADNINSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTSTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NNNWGFRPKRINFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSYAHSOSLDRIMNPLIDOYLYYLSRINTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       I FGKQGSEKTINVDI EKVMI TDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPFKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PCYROQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       I FGKQGSEKTNVDI EKVMI TDEEEI RTTNPVA TEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                            735;
                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                            ВВ
                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 3994;
100.0%; Pred. No. 0;
ive 0; Mismatches
                                                                                                                                English.
                                                                                                                               Claim 25; Page 112-115; 122pp;
                                                                      recombinant adenovirus
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
                                                                                                  for gene therapy
                                          WPI; 2003-627412/59
                                                                                      REP78/68
                                                                                                                                                                                                                                                                                                                                                              Sequence 735 AA;
              Zhang X;
                                                                                                                                                                                                                                                                                                                                   polypeptide
                                                                                      AAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                      vector
              ບັ
                                                                                      more
              Ξ
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       원
                                                                     180
                                                                                                                                240
                                                                                                                                                              240
                                                                                                                                                                                            300
                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                       120
                                                                                                  180
                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                         NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                            PCYRQQRVSKTSADNINISEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                     AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGOOPARKRLNFGOTGDAD
                                                                                                                                                                                                                                                                       NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                CLPPFPADVFMVPQYGYLTLANGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                            HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                             TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                          TISTRIWAL PIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                      PCYROQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                I FGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Adenovirus; Rep78; Rep68; gene therapy; AAV-2; CAP; VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Adeno-associated virus 2 (AAV-2) CAP VP1 polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JAN-2003; 2003WO-US001624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-JAN-2002; 2002US-0349532P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABR82436 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Adeno associated virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (UYDU-) UNIV DUKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO2003061582-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31-JUL-2003
                                                                                                                                                                                          241
          61
                                       61
                                                                     121
                                                                                                 121
                                                                                                                                181
                                                                                                                                                             181
                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABR82436;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
ABR82436
ID ABR8
```

8 8

a

8 6 õ q ò q ò g ò 셤 8 & ద ઠે ö

721 SERPETORITY. 720 721 SERPETORITY. 720 721 SERPETORITY. 720 721 SERPETORITY. 735 721 SERPETORITY. 735 721 SERPETORITY. 735 721 SERPETORITY. 735 722 SERPETORITY. 735 723 SERPETORITY. 735 724 725 727 SERPETORITY. 735 7	661 FSAMKFASFTTQYSTGQVSVEIBWELQKENSKRWNPELQYTSNYNKSVNVDFTVDTNGVY 720	FT Kegion FT	261274 /note= "hypervariable region specifically referred to in
### Region #### Region ###### Region ###################################	SEPRETGIRITIEN 735 SEPRETGIRITIEN 735 SEPRETGIRITIEN 735		74 "hypervariable region specifically referred to 64
62761, monatoral, procein, 735 AA. 62761, monatoral procein, 735 AA. 62761, monatoral procein, 735 AA. 62761, monatoral procein, 791. 62761, monatoral procein, 792. 62762, monatoral pro			/note= "hypervariable region specifically referred to in Claim 4" 256.
NAV2 capaid vector, gene therapy; antisense therapy; vaccine. ANV3 capaid, vector, gene therapy; antisense therapy; vaccine. ANV3 capaid, vector, gene therapy; antisense therapy; vaccine. ANV3 capaid, vector, gene therapy; antisense therapy; vaccine. ANV3 capaid, vector, gene therapy; antisense therapy; vaccine. ANV3 capaid, vector, gene therapy; antisense therapy; vaccine. Incestion/Julifiers Incestion/Julifiers ANV3 capaid, vector, gene therapy; vaccine. Incestion/Julifiers Incestion/Julifiers Incestion/Julifiers ANV3 capaid vector, gene therapy; vaccine. Incestion/Julifiers Incestically referred to in FFT Region Incestically referred to in FFT R	ABN62761 ID ABN62761 standard, protein, 735 AA.		= "hypervariable 4"
DW-2003 (first entry) Baseoclated virue 2 capaid protein vpl. ANY2; capaid vector; gene therapy; antisense therapy; vaccine. ANY3; capaid vector; gene therapy; antisense therapy; vaccine. ANY4; capaid vector; gene therapy; antisense therapy; vaccine. ANY5; capaid vector; gene therapy; antisense therapy; vaccine. ANY6; capaid vector; gene therapy; antisense therapy; vaccine. Antise and a protein value region specifically referred to in property region control of the control o	ABR62761;		.446 = "hypervariable region specifically reformed and
AMV2; capsidy vector; gene therapy, antisense therapy; vaccine. AMV2; capsidy vector; gene therapy, antisense therapy; vaccine. Docution/Qualifiers 1184 Claim 4. ** C	06-NOV-2003 (first entry)		83
ANV2; capaid; vector; gene therapy; antisense therapy; vaccine. 1. Claster "hypervariable region specifically referred to in forter "hypervariable region specifical	Adeno associated virus 2 capsid protein vpl.		"hypervariable
Location/Qualifiers Location/Qualifiers Choice "hypervariable region specifically referred to in Claim 4" Claim 4			.385 = "hypervariable region
Location/Qualifiers Location/Qualifiers Location/Qualifiers Location/Qualifiers Location/Qualifiers Location/Qualifiers Location			n 4"
The force of the following process of the foll			= "hypervariable 4"
Tote—4" "Typervariable region specifically referred to in France and the following processing and the following processing and the following and the followi	1184 /no.e= "hypervariable region specifically referred to		.477 = "hypervariable
7 / Notes "hypervariable region specifically referred to in claim 4" / Notes "hypervariable region specifically referred to in 7 / Region 81. 65 /	Region 2442		.478
755. 28 10	/note= "hypervariable region specifically referred to Claim 4"		= "hypervariable
n Claim 4. 13165 Anotes	.28		.474 "Hymoryaniahlo vocion maistra
Claim 4	IM 4"		Treatment region
133i65	/note= "hypervariable region specifically referred to		hypervariable
137165 Anotes "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT Claim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically referred to in FT (laim 4") Process "hypervariable region specifically "FT (laim 4") Process "hypervariable region specifically "FT (laim 4") Process "hypervariable region specifically "FT (laim 4") Process "hypervariable region specificall	Region 133. 165		.495
Claim 4" 102. 137 103. 143 103. 143 103. 143 103. 143 103. 143 103. 143 104. 152 105. 152 105. 154 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 105. 158 106. 158 1	The variable region specifically referred to		:= "nypervariable region 4"
// Note= "hypervariable region specifically referred to in 137143 // Note= "hypervariable region specifically referred to in 1546155 // Note= "hypervariable region specifically referred to in 181137 // Note= "hypervariable region specifically referred to in 182187 // Note= "hypervariable region specifically referred to in 182187 // Note= "hypervariable region specifically referred to in 182198 // Note= "hypervariable region specifically referred to in 183198 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically referred to in 194208 // Note= "hypervariable region specifically	/note: "hypervariable region specifically referred to		. 179 = "hypervariable
Claim 4." 146. 155 Anotes	7		.525 .hypervariable region energials.
Claim 4" 154. 156 Claim 4" 154. 157 Claim 4" 155. 156 Claim 4" 171. 173 Mores="hypervariable region specifically referred to in claim 4" 172. 187 Claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Claim 4" Mores="hypervariable region specifically referred to in claim 4" Claim 4" Mores="hypervariable region specifically referred to in claim 4" Claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region specifically referred to in claim 4" Mores="hypervariable region 4" Mores="hypervariable region 4" More	9		10.5
// / / / / / / / / / / / / / / / / / /	/note= "hypervariable region, specifically referred to Claim 4"		/note= "hypervariable region specifically referred to in Claim 4"
711. 173 711. 174 711. 174 711. 174 711. 174 711. 174 711. 174 711. 174 71. 17	ţ		region
//Octe= "hypervariable region specifically referred to in FT Region FT 182 . 187 / Acte= "hypervariable region specifically referred to in FT 185 . 198 / Acte= "hypervariable region specifically referred to in FT 185 . 198 / Acte= "hypervariable region specifically referred to in FT 194 208 / Acte= "hypervariable region specifically referred to in FT 199 259 / Acte= "hypervariable region specifically referred to in FT FT FT / Acte= "hypervariable region specifically referred to in FT / Acte=			
/ notes 187 / notes 187 / notes 187 / last 4	/iocem inpervariable region specifically referred to Claim 4"		= "nypervariable 4"
185. 198 (note= "hypervariable region specifically referred to in Claim 4" (194208 (note= "hypervariable region specifically referred to in Claim 4" (199259 (note= "hypervariable region specifically referred to in Claim 4" (199259 (note= "hypervariable region specifically referred to in Claim 4" (190273 (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note= "hypervariable region specifically referred to in Claim 4" (note "hypervariable region specifically referred to in Claim 4" (note "hypervariable region specifically referred to in Claim 4" (note "hypervariable region specifically referred to in Claim 4" (note "hypervariable region specifically referred to in Claim 4" (note "hypervariable region specifically referred to in Claim 4" (note "hypervariable region specifically referred to in Claim 4" (note "hypervariable region 5")	/10110/ /noter 10/ //noterrandle region specifically referred to		.522 = "hypervariable
Claim 4" 195196 Anotes "hypervariable region specifically referred to in FT Claim 4" Claim			
/ notes "Hypervariable region specifically referred to in FT Claim 4" PT Region FT Region FT Claim 4" PT PT PT PT PT PT PT P	/more= "impervariable region specifically referred to Claim 4"		ypervariable
194208 / Include	185198 /note="hypervariable region specifically referred to		lypervariable
Claim 4" Appervariable region specifically referred to in FT Region 199259 /note="hypervariable region specifically referred to in FT Claim 4" PT Region 7006273 /note="hypervariable region specifically referred to in FT Region Claim 4" PT Region FT			
/ Jobe = "hypervariable region specifically referred to in PT Claim 4" PT 260273 FT Region / Anotes = "hypervariable region specifically referred to in PT PT PT PT PT PT PT PT PT PT PT PT PT	referred to		ypervariable
2601273 Zoon PT Region Specifically referred to in FT PT	/ 1995 // 1995		John 1901 John Proposition John Specifically referred to in
red to in FT			
FT Region	red to		fuces - hypervariable region specifically referred to in Claim 4" 583 - 595

120

240

300 300 360 420

420

360

540 540 900 099

720

```
HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV 600
                                                                        121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY 720
    MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                            NNNWGFR PKRLNFKLFNI QVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLPPFPADVFWVPQYGYLTLINNGSQAVGRSSPYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                  SVPDPQPLGQPPAAPSGLGTNTWATGSGAPWADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                     TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                           AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                         SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                           TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 FGKQGSEKTNVDI EKVMI TDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADE76571 standard; protein; 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-JAN-2004 (first entry)
                                                                                           61
                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                 61
                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 8
ADE76571
ID ADE5
XX
XX
AC ADE
XX
DT 29-,
XX
XX
DE Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
A Ade;
XX
                                     õ
                                                                               d
                                                                                                                         8
                                                                                                                                                                           g
                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                                                                                                   ⋧
                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New adeno-associated virus (AAV) comprising an AAV capsid having an amino acid sequence of AAV8, useful for preparing a medicament for delivery of a transgene to a cell and for treating cystic fibrosis or hemophilia B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ğ
                                                                                                                                                                                                                                                                                                                                                      to in
                                                                     ij
                                                                                                                                                                                                                                                                                   in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ņ
  "hypervariable region specifically referred to in
                                                                                                                                                                                                              to in
                                                                                                                                                                                                                                                                                                                                                                                                                                 to in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in
                                                                                                                                           to in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  to in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                        to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 4"
724. .736
/note= "hypervariable region specifically referred to
                                                                                                                                                                                                                                                                                        t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    t
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 707. .723
/note= "hypervariable region specifically referred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         709. .723
/note= "hypervariable region specifically referred
                                                                                                                                           "hypervariable region specifically referred
                                                                                                                                                                                                                                                                                                                                                                                                                              "hypervariable region specifically referred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "hypervariable region specifically referred
                                                                     referred
                                                                                                                                                                                                              referred
                                                                                                                                                                                                                                                                                      referred
                                                                                                                                                                                                                                                                                                                                                      "hypervariable region specifically referred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "hypervariable region specifically referred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    referred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         referred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence is the protein sequence of the vpl capsid pradeno associated virus serotype 2 (AAV2). The invention provides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 735;
                                                                                                                                                                                                              "hypervariable region specifically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            707. .723
/note= "hypervariable region specifically
                                                                   "hypervariable region specifically
                                                                                                                                                                                                                                                                                   "hypervariable region specifically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "hypervariable region specifically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 3994;
100.0%; Pred. No. 0;
ative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 4; Fig 2A-C; 82pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-DEC-2001; 2001US-0341151P.
01-MAY-2002; 2002US-0377133P.
05-JUN-2002; 2002US-0386122P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wilson JM, Alvira M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-NOV-2002; 2002WO-US033630.
                                                                                                                                                                             /note= "h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "F
                                                                                                     /note= "h
                                                                                                                                                                                                                                                                                                                                                                                                   ,note= "hvr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ,..,706
/note= "h.m
                                                                                                                                                                                                                                                        ,58. .667
/note= "hyperical control co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660. .669
/note= "hy
                                                                                                                                                                                                                                                                                                                                660. .671
/note= "hy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (UYPE-) UNIV PENNSYLVANIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 4"
707. .723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                    Claim 4"
                                                                                                                                                                                                                                                                                                          Claim 4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 4"
                                                                                                                                                              Claim 4"
                                                                                                                                                                                                                                                                                                                                                                               Claim 4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 4"
                                                                                           Claim 4"
                        Claim 4"
                                                                     note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-523522/49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO2003052051-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-DEC-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ი,
                                            Region
                                                                                                               Region
                                                                                                                                                                                                                                                                                                                                                                                                        Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Region
                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                  Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gao
```

adeno-associated virus, AAV; cytostatic; antipsoriatic; antirheumatic; antiarthritic; neuroprotective; antidiabetic; antithyroid; dermatological; antiinflammatory; gene therapy; vaccine; hyperproliferative; cancer; psoriasis; autoimmune disease; rheumatoid arthritis; multiple sclerosis; diabetes; autoimmune thyroiditis; scleroderma; Crohn's disease. Adeno-associated virus (AAV) related protein, SEQ ID No 70 Unidentified EP1310571-A2 14-MAY-2003.

ö

Gaps

ö

Indels

; 0

9

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD

-

œ

```
competitive inhibitor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mcarthur J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-061507/07.
                                                                                                                                                                                                                                                                                                                                                                                  Adeno-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       responsive state.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    responsive state
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 734 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200073316-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                    Mastadenovirus,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (28-MAY-1999)
                                                                                                                                                                                                                                                                                                                                     09-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic.
                    481
                                                                541
                                                                                                             601
                                                                                                                                   601
                                                                                                                                                          661
                                                                                                                                                                                661
                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                              AAB50326;
                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Patel S,
                                  셤
                                                                                  d
                                                                                                                                                                                                                                                                                      à
                                                                                                           ò
                                                                                                                               g
                                                                                                                                                       à
                                                                                                                                                                            셤
                                                                                                                                                                                                                       셤
                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                         The invention relates to a novel method for detecting adeno-associated virus (AAV) sequences in a sample, which comprises subjecting a sample contraining a DNA to amplification via a polymerase chain reaction (FCR). The AAV sequence have the following activities: oylorstatic, antitheumatic, antiathritic, neuroprotective, antidabetic, antithyroid, dermatological, and antiniflammatory. The AAV sequence can be used in gene therapy or as part of a vaccine to treat disorders. The method is useful in detecting and/or identified at sequences and isolating novel sequences that are identified. The sequences and isolating novel sequences that are identified. The conditions such as cancers and psoriasis, and other autoimmune diseases like rheumatoid arthritis, multiple selerosis, diabetes, autoimmune conditis, scleroderma or Crohn's disease. This sequence represents an every sequence of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAERQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NNNWGFRPKRINFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLPPFPADVFMVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSYAHSQSLDRLMNPLIDQYLYYLSRTWTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480
                                                                                                                                                                     .
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AKKRVLEPIGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SVPDPQPLGQPPAAPSGLGTNIMATGSGAPMADNNBGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NNNWGFRFKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                            Detecting adeno-associated virus sequences in a sample, useful for
preventing or treating hyperproliferative or autoimmune diseases,
comprises subjecting a sample having a DNA to amplification via
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 3994;
100.0%; Pred. No. 0;
                                                                                                                                                                                                                     Disclosure, SEQ ID NO 70, 419pp, English.
                                            17-DEC-2001; 2001US-0341117P
01-MAY-2002; 2002US-0377066P
05-JUN-2002; 2002US-0386675P.
                                                                                                                  Alvira M;
            12-NOV-2002; 2002EP-00257826
                                                                                          (UYPE-) UNIV PENNSYLVANIA.
                                                                                                                                                                                                  polymerase chain reaction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
                                                                                                                                       WPI; 2003-450984/43.
                                                                                                                 Wilson JM,
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 735 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                 Gao G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
X#X####X#X#X#X######X#XXXXXXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      $ 8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

900 600 99 720 720 The present sequence is given in a specification relating to polypeptide portions of a virus protein or its derivative, that bind to an antibody specific for the virus or inhibit binding of the virus or cell. The polypeptides are used in inhibiting the binding of viruses to cells of a host. Oligopeptides that inhibit binding of virus to receptor can be used as competitive inhibitors to release bound virus to receptor can be used assay, and if an antibody was used as an immunoadsorbent, the oligopeptide could be used to elute bound virus from a solid support to which virus antibody is immobilised. These oligopeptides may further be used to a bind to host antibody to provide a transient tolerant or nona non-541 IFGKQGSEKTINVDIEKVMITDEEBIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQ1LIKNTPVPANPSTT FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY PCYROORVSKTSADNINSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL I PGKQGSEKTINVDI EKVMI TDEBEIRTTINPVATEQYGSVSTINLQRGNRQAATADVNTQGV LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY o to New polypeptide portion of a virus protein binding to an antibody specific for the virus useful for inhibiting binding of the virus cell or for binding host antibody to provide a transient tolerant virus; AAV; capsid; virus binding inhibition; Adeno-associated virus capsid protein sequence. Š Disclosure, Fig 2; 33pp; English. 734 26-MAY-2000; 2000WO-US014466. SEPRPIGTRYLTRNL 735 SEPRPIGTRYLTRNL 735 99US-00321589 AAB50326 standard; protein; (first entry) (CELL-) CELL GENESYS INC.

σ

```
1;
                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                               120
                                                                                                                                              180
                                                                                                                                                           240
                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     719
                                                  9
                                                                     9
                                                                 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPRPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                             KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                          AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                      SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                      TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                       NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                   CLPPFPADVFWVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                     HSSYAHSQSLDRI.MNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKUTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                               MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                           SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                         TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                    CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                    HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                   PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  I FGKQGSEKTINVDI EKVMI TDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IFGKÓGSEKTINVDIEKVMITDEEEIRTTN-VATEÓYGSVSTNLÓRGNROAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILLIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSAAKFASF1TQYSTGQVSVE1EWELQKENSKRWNPE1QYTSNYNKSVNVDFTVDTNGVY
                          Gaps
                          1;
   4; Length 734;
                          Indels
 Score 3967.5; DB 4
Pred. No. 3.5e-317;
0; Mismatches 1;
99.3%;
llarity 99.7%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEPREIGTRYLTRNL 734
             Similarity
                      733;
Query Match
Best Local S:
Matches 733
                                                                                             61
                                                                                                                    61
                                                                                                                                            121
                                                                                                                                                                   121
                                                                                                                                                                                           181
                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                           ò
                                                                                                                  임
                                                                                                                                                             ద
                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                       8
                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

e.9

useful for

Detecting adeno-associated virus sequences in a sample, useful for preventing or treating hyperproliferative or autoimmune diseases, comprises subjecting a sample having a DNA to amplification via

2001US-0350607P

13-NOV-2001;

12-NOV-2002; 2002EP-00257826

Unidentified EP1310571-A2 14-MAY-2003 17-DEC-2001; 2001US-0341117P 01-MAY-2002; 2002US-0377066P

05-JUN-2002; 2002US-0386675P

(UYPE-) UNIV PENNSYLVANIA,

WPI; 2003-450984/43. Wilson JM,

ຶ່

Claim 24; SEQ ID NO 67; 419pp; English

polymerase chain reaction.

```
The invention relates to a novel method for detecting adeno-associated virus (AAV) sequences in a sample, which comprises subjecting a sample containing a DNA to amplification via a polymerase chain reaction (PCR). The AAV sequence have the following activities: cytostatic, antithyroid, dermatological, and antiinflammatory. The AAV adult disperiatic, antithyroid, dermatological, and antiinflammatory. The AAV acquence can be used in gene therapy or as part of a vaccine to treat disorders. The method is useful in detecting and/or identifying AAV sequences may be used e.g. for preventing or treating hyperproliferative conditions such as cancers and psoriasis, and other autoimmune diseases themselved arthritis, multiple sclerosis, diabetes, autoimmune thyroiditis, scleroderma or Crohn's disease. This sequence represents an AAV related protein sequence of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KGEPVNEADAAALEHDKAYDHQLKQGDNPYLKYNHADAEFQERLQEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPNQQHRDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NNNWGFR PKKLNFKLFNI QVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISTRIWALPIYNNRLYKQISSESGATNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 3623; DB 7;
Pred. No. 7.8e-289;
8; Mismatches 42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90.7%;
89.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 735 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          655;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

adeno-associated virus; AAV; cytostatic; antipsoriatic; antirheumatic; antarbritic; neuroprotective; antidiabetic; antithyroid; dermatological; antiinflammatory; gene therapy; vaccine; hyperproliferative; cancer; psoriasis; autoimune disease;

rheumatoid arthritis; multiple sclerosis; diabetes; autoimmune thyroiditis; scleroderma; Crohn's disease

Adeno-associated virus (AAV) related protein, SEQ ID No

(first entry)

29-JAN-2004

A 735

standard; protein;

ADE76568

ADE76568;

us-10-038-972a-13.rag

Page 10

```
600
                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
adeno-associated virus; AAV; cytostatic; antipsoriatic; antirheumatic; antiarthritic; neuroprotective; antidiabetic; antithyroid; dermatological; antinflammatory; gene therapy; vaccine; hyperproliferative; cancer; psoriasis; autoimmune disease; rheumatoid arthritis; multiple sclerosis; diabetes;
                                                                                                                 PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                     IFGKQGSEKTNVDI EKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                LPGMVWQDRDVYLQGPIWAKTPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPATT
                                                                                HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FTPGKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYKSVNVEFTVDANGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Detecting adeno-associated virus sequences in a sample, useful for preventing or treating hyperproliferative or autoimmune diseases, comprises subjecting a sample having a DNA to amplification via
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Adeno-associated virus (AAV) related protein, SEQ ID No 69.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          autoimmune thyroiditis; scleroderma; Crohn's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2001US-0341117P.
2002US-0377066P.
2002US-0386675P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-NOV-2002; 2002EP-00257826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2001US-0350607P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADE76570 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYPE-) UNIV PENNSYLVANIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wilson JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-450984/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EP1310571-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-DEC-2001;
01-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-JUN-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-MAY-2003
                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                 361
                                                                                421
                                                                                                                                                                                       481
                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADE76570;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 11

ADE76570

ID ADE7

XX

XX

ADE7 29-J

XX

B aden

XX

XX

ADE7 29-J

ADE
                                                                             ò
                                                                                                                               음
                                                                                                                                                                                    ò
                                                                                                                                                                                                                                ·8
                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

```
containing a DNA to amplification via a polymerase chain reaction (PCR). The AAV sequence have the following activities: cytostatic, antirheumatic, antiarthritic, neuroprotective, antidabetic, antithyroid, dermatological, and antinflammatory. The AAV sequence can be used in gene therapy or as part of a vaccine to treat disorders. The method is useful in detecting and/or identifying AAV sequences and isolating novel sequences that are identified. The sequences may be used e.g. for preventing or treating hyperproliferative conditions such as cancers and psoriasis, and other autoimmune diseases like rheumatoid arthritis, multiple sclerosis, diabetes, autoimmune AAV related protein sequence of the invention.
                                                                                                                                                                                                                                                                                                                     KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                          121 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                          KGEPVNEADAAALEHDKAYDHQLKQGDNPYLKYNHADAEPQERLQEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                               1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRPARRHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                  1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPRKPNQQHRDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                               241 TISTRIWALPIYNNHLYKQISSESGAINDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                               SVPDPQPLGQPPAAPSGLGTNTWATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISTRIWALPIYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 NNNWGFRPKKLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361 CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCYRQORVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             I FGKQGSEKTINVDI EKVMITDEEEIRTTINPVATEQYGSVSTINLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKWTPVPANPSTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                           ô
                                                                                                                                                                                                              Length 735;
                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                             42;
                                                                                                                                                                                                          90.7%; Score 3622; DB 7;
89.0%; Pred. No. 9.4e-289;
iive 39; Mismatches 42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           735
                                                                                                                                                                                                     Query Match
Best Local Similarity 89.0%;
Matches 654; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEPRPIGTRYLTRNL
                                                                                                                                                                               Sequence 735 AA;
                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
  8.8666666666666888
                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                     Op
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
```

12 RESULT

The invention relates to a novel method for detecting adeno-associated virus (AAV) sequences in a sample, which comprises subjecting a sample

Claim 24; SEQ ID NO 69; 419pp; English.

polymerase chain reaction.

```
300
                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
AKKRVLEPLGLVEEAVKTAPGKKRPIEQSPAEPDSSSGIGESGQQPAKKRLNFGQTGDTE 180
                                                                                                                                                                                                                                                                   adeno-associated virus, AAV; cytostatic; antipsoriatic; antirheumatic; antiathitic; neuroprotective; antidabetic; antithyroid; dermatological; antiinflammatory; gene therapy; vaccine; hyperproliferative; cancer; psoriasis; autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                                      FTPGKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVEFTVDANGVY
                                                                                                                                                                                                                  NNNWGFRPKKLNFK1FNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LPGWVWQDRDVYLQGPIWAKTPHTDGHFHPSPLMGGFGLKHPPPQILIKWTPVPANPATT
                                                          SVPDPQPIGEPPAAPSGVGSNTWASGGGAPMADDNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                            NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                  HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG
                                                                                                                                                                                                                                                                                                                                                                                                                               PCYROORVSKTSADNINSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSYROQRMSKTANDNINSEFAWTAATKYYLNGRISLVINGPPMASHKDDEEKYFPMHGNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                               TTSTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                   241 TISTRIWALPTYNNHLYKQISSESGATNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                                      SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Adeno-associated virus (AAV) related protein, SEQ ID No 66.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        autoimmune thyroiditis; scleroderma; Crohn's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rheumatoid arthritis, multiple sclerosis; diabetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADE76567 standard; protein; 735 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; 2001US-0350607P.
; 2001US-0341117P.
; 2002US-0377066P.
; 2002US-0386675P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-NOV-2002; 2002EP-00257826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEPRPIGTRYLTRNL 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-NOV-2001;
17-DEC-2001;
01-MAY-2002;
05-JUN-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP1310571-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADE76567;
121
                                                                                                               241
                                                                                                                                                                                            301
                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                      181
                                                                        181
                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADE76567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                  ò
                                                                셤
                                                                                                     ð
                                                                                                                                             요
                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          virus (AAV) sequences in a sample, which comprises subjecting a sample containing a DNA to amplification via a polymerase chain reaction (PCR). The AAV sequence have the following activities: cytostatic, antirheumatic, antiarthritic, neuroprotective, antidabetic, antirhyroid, dermatological, and antinflammatory. The AAV sequence can be used in gene therapy or as part of a vaccine to treat disorders. The method is useful in detecting and/or identifying AAV sequences and isolating novel sequences that are identified. The sequences may be used e.g. for preventing or treating hyperproliferative conditions such as cancers and psoriaeis, and other autoimmune diseases like rheumatoid arthritis, multiple sclerosis, diabetes, autoimmune thyroiditis, scleroderma or Crohn's disease. This sequence represents an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Detecting adeno-associated virus sequences in a sample, useful for e.g. preventing or treating hyperproliferative or autoimmune diseases, comprises subjecting a sample having a DNA to amplification via
                                                                                                                                                                  adeno-associated virus; AAV; cytostatic; antipsoriatic; antirheumatic; antiarthritic; neuroprotective; antidiabetic; antithyroid; dermatological; antiinflammatory; gene therapy; vaccine; hyperproliferative; cancer; psoriasis; autoimmune disease; rheumatoid arthritis; multiple sclerosis; diabetes; autoimmune thyroiditis; scleroderma; Crohn's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          invention relates to a novel method for detecting adeno-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPNQQHRDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 735;
                                                                                                                               Adeno-associated virus (AAV) related protein, SEQ ID No 68.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90.6%; Score 3617; DB 7;
88.8%; Pred. No. 2.4e-288;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 related protein sequence of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24; SEQ ID NO 68; 419pp; English.
                  Ź
                ADE76569 standard; protein; 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-NOV-2001; 2001US-0350607P.
17-DEC-2001; 2001US-0341117P.
01-MAY-2002; 2002US-0377066P.
05-JUN-2002; 2002US-038675P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Σ
                                                                                                                                                                                                                                                                                                                                                                                                                             12-NOV-2002; 2002EP-00257826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alvira
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYPE-) UNIV PENNSYLVANIA.
                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             polymerase chain reaction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 653; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-450984/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wilson JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 735 AA;
                                                                                                                                                                                                                                                                                                           Unidentified
                                                                                                                                                                                                                                                                                                                                                EP1310571-A2
                                                                                           29-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                      14-MAY-2003
                                                    ADE76569;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gao G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
```

8 6 8 8

Alvira

```
(UYPE-) UNIV PENNSYLVANIA
       WPI; 2003-450984/43.
    Wilson JM,
    Gao G,
```

The invention relates to a novel method for detecting adeno-associated virus (AAV) sequences in a sample, which comprises subjecting a sample containing a DNA to amplification via a polymerase chain reaction (PCR). The AAV sequence have the following activities: cytostatic, antithenmatic, antiathritic, neuroprotective, antidabetic, antithyroid, dermatological, and antinflammatory. The AAV sequence can be used in gene therapy or as part of a vaccine to treat disorders. The method is useful in detecting and/or identifying AAV sequences and isolating novel sequences that are identified. The sequences and because do for preventing or treating hyperproliferative conditions such as cancers and psoriasis, and other autoimmune diseases like rheumatoid arthritis, multiple selerosis, diabetes, autoimmune thyroiditis, scleroderma or Crohn's disease. This sequence represents an AAV related protein sequence of the invention. Detecting adeno-associated virus sequences in a sample, useful for e.g. preventing or treating hyperproliferative or autoimmune diseases, comprises subjecting a sample having a DNA to amplification via polymerase chain reaction. Claim 24; SEQ ID NO 66; 419pp; English.

Sequence 735 AA;

KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ 120 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD 180 180 240 240 300 360 360 1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPNQQHRDDSRGLVLPGYKYLGPFNGLD 60 CLPPFFADVFMVPQYGYLTLINNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF 420 CLPPFPADVFMIPQYGYLTLINNGSQAVGRSSFYCLEXFPSQMLRTGNNFTFSYTFEDVPF 420 HSSYAHSQSLDRLMNPLIDQYLYYLSRTNTPSGTTTQSRLQFSQAGASDIRDQSRNWLPG 480 540 IFGKQGSEKTNVDIEKVMITDEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQSV 600 1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI SVPGPQPIGEPPAAPSGVGSNTMASGGGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI TISTRIWALPIYNNHLYKQISSQSGASUDNHYFGYSIPWGYFDFNRFHCHFSPRDWQRLI NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGVL PSYRQQRMSKTANDNNNSEFAWTAATKYYLNGRNSLVNPGPPVASHKDDEEKYFPMHGNL ö Length 735; Indels 90.5%; Score 3615; DB 7; 88.8%; Pred. No. 3.6e-288; ive 39; Mismatches 43; Best Local Similarity 88.8 Matches 653; Conservative Query Match 61 121 181 181 241 301 241 301 421 361 361 421 481 481 용 ઠ à g Š q Š 셤 ò a ઠે 셤 ò ద ò 쉱 8 ठे है ठे

a

```
99
                                 099
                                                             720
                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention relates to adeno-associated virus serotypes. The present sequence is capsid protein VP1 of one such serotype (AAV3B).

AAV3B can be used to contruct AAV viral vectors for use in gene therapy for a range of disorders: cystic fibrosis, cancer, AIDS, atherosclerosis, sickle cell anaemia, thalassaemia, blood clotting disorders and diabetes. The AAV viral vectors have increased transduction efficiency of a particular host cell as the AAV virion containing the AAV vector genome can be modified to express a capsid protein of an AAV serotype that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                        LPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTT
                    601 LPGMVWQDRDVYLQGPIWAKTPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPATT
                                                    FSAAKFASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                AAV3B; gene therapy; AAV viral vector; cystic fibrosis; cancer; AIDS; atherosclerosis; sickle cell anaemia; thalassaemia; blood clotting disorder; diabetes; capsid protein VPI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Adeno-associated virus serotype 6 and viral vector derived from it gene therapy of cystic fibrosis, cancer, acquired immunodeficiency syndrome, sickle cell anemia, thalassemia and diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89.1%; Score 3557.5; DB 4, 87.9%; Pred. No. 1.9e-283; ive 37; Mismatches 51;
                                                                                                                                                                                                          Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 2; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        transduces the selected host cell
                                                                                                                                                                                                          736
                                                                                                             735
                                                                                                                                   SEPRPIGIRYLIRNI 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97US-00873168.
                                                                                                                                                                                                      AAB59846 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 87.9%;
Matches 647; Conservative 3
                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                       AAV3B capsid protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EA;
                                                                                                           SEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (UNIW ) UNIV WASHINGTON,
                                                                                                                                                                                                                                                                                                                                                                       Adeno associated virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-060164/07.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 736 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      11-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11-JUN-1997;
                                                                                                                                                                                                                                                             28-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                 US6156303-A
                                                                                                                                                                                                                                                                                                                                                                                                                            05-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Russell DW,
 601
                                                     661
                                                                                                          721
                                                                                                                                    721
                                                                                                                                                                                                                                   AAB59846;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                       ò
                    셤
                                                     à
                                                                          g
                                                                                                        ò
                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
```

for

Thu

g

Š

a

ઠે

a

ઠે 원 장

ద ò a ò g ઠે 셤 ઠે 엄 ઠે

કે

```
The present invention relates to adeno-associated virus serotypes. The present sequence is capsid protein VP1 of one such serotype (AAV3A).

AAV3A can be used to contruct AAV viral vectors for use in gene therapy for a range of disorders: cystic fibrosis, cancer, AIDS, atherosclerosis, sickle cell anaemia, thalassaemia, blood clotting disorders and diabetes. The AAV viral vectors have increased transduction efficiency of a particular host cell as the AAV virion containing the AAV vector genome can be modified to express a capsid protein of an AAV serotype that transduces the selected host cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSYAHSQSLDRLMNPLIDQYLYYLSRT-NTPSGTTTQSRLQFSQAGASDIRDQSRNWLP 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                      KGEPVNEADAAALEHDKAYDQQLKAGDNPYLKYNHADAEFQERLQEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADAEFQERLKEDTSFGGNLGRAVFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGOOPARKRLNFGOTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFQFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFNGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SVPDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SVPDPQPLGEPPAAPTSLGSNTWASGGGAPMADNNEGADGVGNSSGNWHCDSQWLGDRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSYAHSÖSLDRIMMPLIDQYLYYLNRTQGTTSGTTNQSRLLFSQAGPQSMSLQARNWLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GPCYRQORVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GPCYRQQRLSKTANDNNNSNFPWTAASKYHLNGRDSLVNPGPAMASHKDDEEKFFPMHGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LIFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VLPGMVWQDRDVYLQGPIWAKI PHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TESAAKFASFITQYSTGOVSVEIEWELGKENSKRWNPEIQYTSNYNKSVNVDFTVDTNGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                        nacio-associatea virus serotype 6 and viral vector derived from it gene therapy of cystic fibrosis, cancer, acquired immunodeficiency syndrome, sickle cell anemia, thalassemia and diabetes.
                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                 Length 736;
                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                               88.4%; Score 3532.5; DB 4; 87.4%; Pred. No. 2.2e-281; ive 38; Mismatches 54; I
                                                                                                     Disclosure; Fig 2; 50pp; English
                                                                                                                                                                                                                                                                                                                               al Similarity 87.4 643; Conservative
               2001-060164/07
                                                                                                                                                                                                                                                                                    Sequence 736 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 099
                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                  Best Local
                                                                                                                                                                                                                                                                                                                                              Matches
a
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                              300
                                                                                                                                                                                             360
                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                 479
                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                            539
                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                      599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
            AKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SVPDPQPLGQPPAAPSGLGTNTWATGSGAPMADNNBGADGVGNSSGNWHCDSTWMGDRVI
                                                                                    TISTRIWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                                           CLPPFPADVEMVPQYGYLTLINGSQAVGRSSFYCLEYFPSQMLRTGNNFQFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                                  GPCYRQQRLSKTANDNNNSNFPWTAASKYHLNGRDSLVNPGPAMASHKDDEEKFFPWHGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRLI
                                                                                                                                                                                          NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
                                                                                                                                                                                                                                                     CLPPFPADVFMVPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVPF
                                                                                                                                                                                                                                                                                                                 HSSYAHSQSLDRLMNPLIDQYLYYLSRT-NTPSGTTTQSRLQFSQAGASDIRDQSRNWLP
                                                                                                                                                                                                                                                                                                                                                                          GPCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVNPGPAMASHKDDEEKFFPQSGV
                                                                                                                                                                                                                                                                                                                                                                                                                                    LIFGKQGSEKTNVDIEKVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VLPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQIMIKNTPVPANPPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cancer; AIDS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAV3A; gene therapy; AAV viral vector; cystic fibrosis; atherosclerosis; sickle cell anaemia; thalassaemia; blood clotting disorder; diabetes; capsid protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene therapy; AAV viral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97US-00873168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YSEPRPIGTRYLTRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rutledge EA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein VP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (UNIW ) UNIV WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            associated virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB59845 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV3A capsid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US6156303-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Russell DW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-MAR-2001
                                        121
                                                                                                 181
                                                                                                                                241
                                                                                                                                                              241
                                                                                                                                                                                           301
                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB59845;
            121
                                                                      181
                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99
                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Adeno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB5984
```

240

240 300 300 360 360 420 420 540 599 600

629 9 719 720

480 539

120 120 180 180

9

දි දි

720 YSEPRPIGTRYLTRNL 735 |||||||||||||||||| 721 YSEPRPIGTRYLTRNL 736

. Search completed: May 19, 2005, 13:30:02 Job time : 169 secs